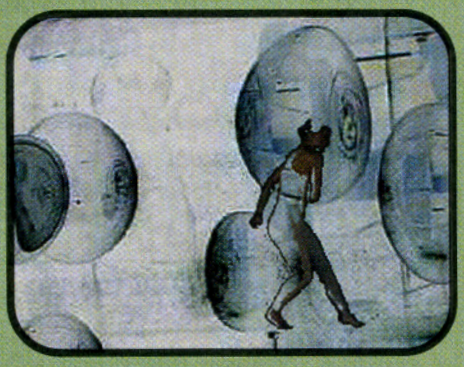
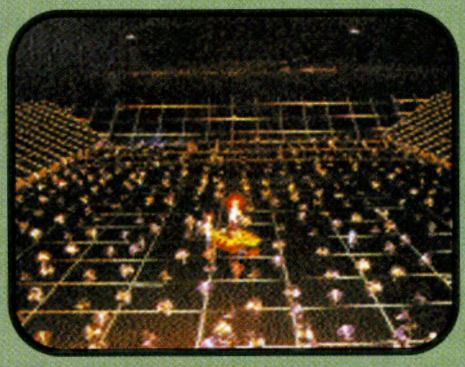
Connect

Information Technology at NYU

Volume 13, Number 1 Fall 2002



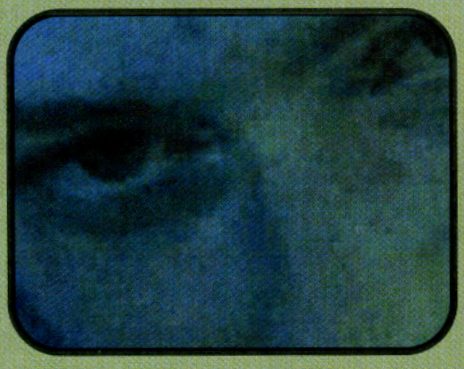
Leaping into Dance Technology



ACS Facilitates MILAGRO Meeting

ITS Collaborates with the MTA

Database of Recorded American Music



KeyStroke Multimedia Software

News from the ITS Computer Labs

Also in this issue:

Guides to NYUHome Version 3.0, NYU DIAL, and NYU Forums
NYU Blackboard Survey Results • Creating User-Friendly Online Tutorials
Scientific Computing & Visualization • ITS Computer Support Services • And more!

Connect
Information Technology at NYU

Fall 2002
Volume 13, Number 1

Welcome to the Fall 2002 edition of *Connect!*

This issue of *Connect* addresses a rich diversity of topics, including recent developments in the use of technology in the Arts and the Sciences at NYU, explorations of several of the advanced services offered through the NYU Libraries, guides to some of the most robust technological tools and services available to the NYU community, pertinent news items, announcements of expanded and enhanced service offerings, and reports on ground-breaking collaborative projects between NYU and other prestigious institutions.

I especially enjoyed working on an issue that encompasses such a wide range of the innovative uses of technology that take place at our University every day. I hope that you will enjoy this issue of *Connect* as much as I have!

About Connect

Connect: Information Technology at NYU is edited and published by New York University's Information Technology Services (ITS). Its scope includes information about computing, networking and telecommunications across NYU's various schools, departments and administrative units, as well as developments in information technology outside the University.

Copies of *Connect* are available at the ITS Faculty Technology Center, the ITS computer labs, the ITS Client Services Center, the NYU Information Center and most graduate school offices. Copies are mailed to full-time University faculty, staff, administrators, and researchers, based on mailing lists administered by the Human Resources Division.

If you are a full-time faculty member and do not receive a copy, please notify your dean's office; full-time staff should notify their human resources representative. If you are not among these groups but would like a free subscription, send e-mail to *its.connect@nyu.edu*.

We welcome your comments about the articles in this issue, as well as suggestions for future issues. Contributions are invited for consideration by the editor.

Opinions expressed in the articles in this publication are those of the authors and not necessarily those of Information Technology Services or of New York University.

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The editor gratefully acknowledges the editorial support of her colleagues, Candice Gruver and Jill Hochberg.

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http://www.nyu.edu/its/connect/

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Leaping into Dance Technology

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Dance Technology extends the vocabulary of dance creation and performance. It allows a choreographer to create and see a dance without requiring real dancers to be present. The lighting and set designer and the composer can use the actual movement of the dancers to create, queue, and compose the lighting and music for the piece or installation. Musicians can control the lighting, or artists in a distant location can use the Internet to interact with the dancers during the performance.

Performance tools are divided into two major groups: those that are an explicit part of the performance and those that are used to help create, design, construct, or control some aspect of the piece.

Video & Audio Manipulation

Many of these performance tools share a common style of interface. Like Tinkertoys, you use a set of basic functional units to make many different constructions. In the case of these computer-based "Tinkertoys," these units have to do with input choices, manipulation of the input stream, and output of the final product. Current options include programs like Isadora, KeyStroke (See "KeyStroke Workshop at NYU" on page 8 of this issue), Max/MSP, Max/Very Nervous System, Image/ine, Jitter and EyesWeb.

The input options consist of live or recorded video or audio, real-time Musical Instrument Digital Interface (MIDI), keystrokes from a computer keyboard, and mouse movement. MIDI input, for example, can originate from traditional MIDI instruments or from wireless sensors attached to the dancers. The program then represents the pieces of input on the screen as a set of building blocks that you drag onto the computer canvas and connect in the desired pattern.

Figure 1 shows a small network of three connected building blocks from the demo supplied with a program called Isadora from Troika-Tronix. The outputs from one unit are connected to the input of another. The program allows you to use the mouse to control the location of the playhead, forward or backward at whatever speed you like, in a QuickTime movie. It takes input from the mouse in the "Mouse Watcher" module and the QuickTime movie in the "Movie Player" module and sends it to be displayed by the "Projector" module.

Create, Control

There are many types of technology that can be used to help create a dance performance or piece. There are packages used for virtual lighting design, cue storage, lighting control, and other production-related tasks. There are proposed extensions to MIDI for this need, including MacLux, Virtual Light Lab, and Lan Box.

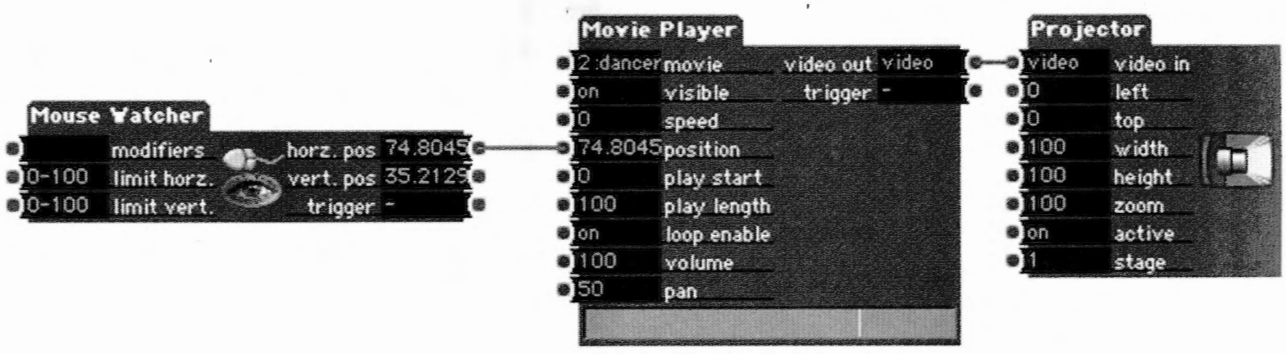

Figure 1. An Isadora "Scratch" demo.

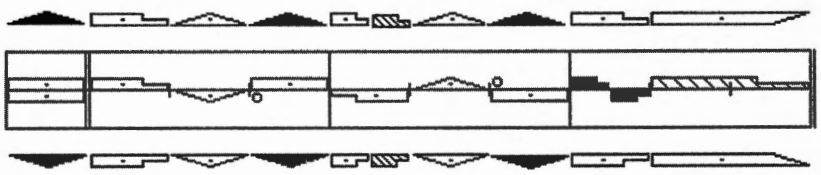

Figure 2. A Labanotation Score from LabanWriter.

As mentioned earlier, choreographic and notational tools enable the artist to compose or record a dance without the need for human dancers. One of the first such tools is called Life Forms Dance. It allows the choreographer to compose and view a dance with multiple dancers on a computer screen. Along with basic body and movement modeling, it has modules that allow you to generate more complex movements such as walking. It can export the movement sequences to 3D modeling and animation packages to produce a finished movie.

The Labanotation symbol system (**http://www.dancenotation.org/**) can be used to record dances in the same way a musical score records a musical piece. Each horizontal line represents a different body part, with more details added as needed to create a more complex or specific movement. The image from LabanWriter in Figure 2 illustrates one of these scores. Doing this by hand is tedious and error prone and Labanotation tools minimize these problems. A good score is invaluable for recreating or teaching a new dance.

3D Motion Tracking/ Capture Systems

The process of notating a dance piece and then transferring it to a 3D animation package has been partly automated in software packages for motion tracking and capture. Some systems rely on multiple video cameras to capture a movement sequence and then post-process it. Dancers wear special clothing or markers that are interpreted by the analysis software. This is the easier and more popular type of system. Other packages require the dancers to be fitted with devices called "goniometers" to measure and report actual body position. While these can be quite accurate, they are difficult to fit and calibrate.

Even the most sophisticated motion capture systems require the choreographer to carefully correct the computed result. This is because it is quite hard to compute 3D locations with certainty, as the markers are typically no larger than a ping-pong ball. The corrected output can then be either used as is to record or teach a piece, or it can be used as input to other programs.

There are two primary ways to use the live motion of the dancers to control some aspect of the piece. The first is to use a package like KeyStroke or Isadora with live video input. A network would then process the video signal to decide the rough location of the dancer, from which a useful value can be easily obtained. Careful lighting, rehearsal, calibration, and experimentation can improve this to provide surprisingly accurate results.

The second method involves fitting the dancers with wireless elastic cuffs on their major joints, usually the knees and elbows. These cuffs transmit MIDI data based on the degree of flexion of the joint, which can then be locally processed or sent via the Internet to another location for use, processing, or modification.

Collaborative Network Performances

There is affordable technology that makes it possible to use the Internet to share multiple streams or channels of high quality video and audio. These types of applications require a large bandwidth that would be difficult to obtain on the regular Internet.

NYU is a member of Internet2, an initiative involving over 180 universities and many technical partners, all working to address these bandwidth concerns through the implementation of a next generation Internet. Internet2 is a separate network, similar in technology to the Internet, but with far fewer users and no commercial traffic. This allows members to use a large amount of bandwidth to exchange data between themselves without having to compete with the day-to-day business of the regular Internet.

Currently, membership is primarily limited to universities using Internet2 for research purposes. Although it is largely used for scientific and engineering applications, there are a few universities (including NYU) that are using Internet2 for performance and instructional purposes. Without the bandwidth supplied by Internet2, we would be unable to make a consistent and reliable network connection between geographically distant sites for these types of projects.

A typical multiple-location setup consists of Internet2-connected performing spaces in each of the locations. Usually, performers, musicians, video artists, and many technicians are located at each venue. At each site, the various streams of video, audio, and MIDI are digitized and sent over Internet2 to all the other participating locations.

Then, by previous arrangement, the signals can be either played locally or modified and re-transmitted back to the originating location to be

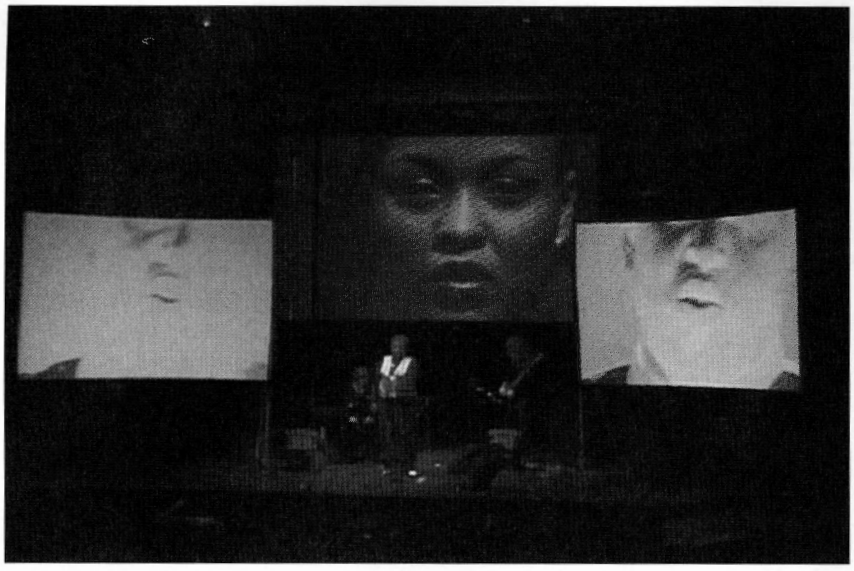

Figure 3. A scene from the Internet2 performance "The Technophobe & the Madman".

used there. Each location will see a different but combined piece. They will see both the local performance and the one supplied over Internet2.

See Figure 3 for an example from an Internet2 performance piece entitled "The Technophobe & the Madman" (featured in an article by Philip Galanter in the Fall 2001 issue of *Connect*, available online at: **http://www.nyu.edu/its/connect/archives/01fall/galanter1.html**). In this multiple-location musical, the local performers on the stage interacted with the remote performers shown on the video projection screens.

The Future of Dance Technology

The future of Dance Technology is the same as that of all disciplines using computers: faster, better, cheaper, and more integrated. Increasingly faster computers mean that hardware compression/decompression software ("codecs") used for transmitting video and audio over a network will be able to further compress the input to better utilize the available bandwidth. Motion tracking systems will be able to use more sophisticated algorithms to determine the dancers' locations. More affordable prices will allow performing arts groups to purchase this type of hardware and software for use in performing spaces outside of large colleges and universities.

Anyone who has used a motion capture system or attended a network performance has probably seen the mass of wires, technicians, and software needed for the final product. Better integration in the future will reduce the confusion, the number of people involved, and the problems associated with moving data from one program to another. Advancements such as these will undoubtedly continue to expand the use of dance and other performance technologies as valuable tools of artistic expression.

For more information about using the performance technologies discussed in this article here at New York University, contact the Arts Technology Group within ITS Academic Computing Services at *its.atg@nyu.edu*, or visit their website at **http://www.nyu.edu/its/atg/**. See the next section of this article for resources outside of NYU.

Internet Resources

These URLs are for software and systems mentioned in this article. This list is not meant to be complete and does not recommend one over another. Many of these items can be downloaded for free or at a small charge and, as with other free software, the burden of support is on the user. That being said, I have found that many of these are quite usable and do not require a lot of effort to be successful.

Dance Notation

Dance Notation Bureau (Labanotation)
http://www.dancenotation.org/

LabanWriter, LabanReader
http://www.dance.ohio-state.edu/labanwriter/

LabanLab
http://www.dance.ohio-state.edu/~dnbext/labanlab/

LED and LINTER
http://staff.it.uts.edu.au/~don/pubs/led.html

Calaban
http://www.bham.ac.uk/calaban/contents.htm

NotationMan, SpacePlaceGuide
http://www.mindspring.com/~note8r/labanotation.html

Video/Audio/MIDI Manipulation

Isadora
http://www.troikatronix.com/isadora.html

KeyStroke
http://www.keyworx.org

Very Nervous System (softVNS)
http://www.interlog.com/~drokeby/softVNS.html

EyesWeb
http://www.eyesweb.org

Max
http://www.opcode.com

Max/MSP
http://www.cycling74.com/products/maxmsp.html

Image/ine
http://www.image-ine.org

Jitter
http://www.cycling74.com/products/jitter.html

Lighting Software
Product List
http://members.aol.com/lightingsoftware/soft.html

Life Forms Dance Software
Credo Interactive
http://www.credo-interactive.com

Internet2
Main Website
http://www.internet2.edu

General Dance Technology
Ohio State Dance Technology Program
http://www.dance.ohio-state.edu/Dance_and_Technology/
Dance & Technology Zone
http://www.art.net/%7Edtz/
Studio for Electro-Instrumental Music (STEIM)
http://www.Steim.nl

Motion Tracking
VICON Motion Systems
http://www.vicon.com
Human Movement Tracking Technology
http://www.cs.sfu.ca/~amulder/personal/vmi/HMTT.pub.html
Useful Motion Capture Links
http://www.dcs.shef.ac.uk/~mikem/linkspeople.html
Google Measurement Technology Links
http://directory.google.com/Top/Science/Social_Sciences/Psychology/Industrial_and_Organizational/Human_Factors_and_Ergonomics/Measurement_Technologies/

Internet Performances
Songs of Sorrow...Songs of Hope
- **http://home.nyu.edu/~ddg1/play112901.html**
- **http://www.nyu.edu/education/music/internet2**

Intenet2 Events w/ Indiana University-Purdue University
http://www.nyu.edu/classes/gilbert/distance

THANKS

Special thanks to Lisa Naugle of the University of California at Irvine, **http://dance.arts.uci.edu/lnaugle/** and to John Crawford at electricFX, **http://www.electricfx.com/john/**. Their direction and advice have been essential. ⓘ

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ITS Computer Support Service At Your Desk

ITS Client Services is pleased to announce that we are offering on-site support services to NYU departments. Faculty and staff from departments that subscribe to this service can contact ITS Computer Support Services staff through both a dedicated phone number and a dedicated e-mail address, and receive timely, personal and diligent responses to their computer needs. Our staff is on call to help you, so that you can devote more time to your work. An annual fee per computer provides each subscriber with the priority services outlined here.

A range of resources and services is available through our desktop support solutions, including:

- knowledgeable staff to assist you by phone and at your office
- a dedicated phone number to call and an e-mail address for submitting questions
- fast and effective troubleshooting of computer problems
- new computer set-up and configuration service
- on-site software installs, upgrades, and hardware service assistance

ITS provides quick and reliable support to NYU faculty and staff. Our goal is to give you the peace of mind that comes from knowing that if you have a problem, we will be there to find the solution.

On-site support is available, by appointment, Monday–Friday from 9:30 am-4:30 pm. Telephone support is provided by our Computer Support Services staff Monday–Friday, 9:00 am-5:00 pm, and by our Client Services Center staff during all hours of operation (Monday–Friday, 8:00 am-midnight; Saturday–Sunday, noon-midnight).

If you have questions or are interested in this service, please contact Jeff Lane at 1 (212) 992-9297 or Ken Fauerbach at 1 (212) 992-9299, or write to *its.desktop@nyu.edu*.

The Database of Recorded American Music

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The last ten years have seen dramatic changes in the retail market for music. These changes are more extensive than simply the rise of file-sharing services such as Napster and peer-to-peer (P2P) networks that have been the subject of media attention. Sales of audio CDs have dropped dramatically since 1995, and in response, record stores and their suppliers have increasingly moved towards emphasizing new releases and dropping slower-moving titles from their catalogs.

The commercial availability of niche music has become increasingly restricted, and smaller music labels that record artists who are not covered by mainstream labels have found it increasingly difficult to obtain rack space in stores. This has severely compromised the economic position of the smaller labels, with the result that many have closed in recent years or are struggling to survive.[1]

New World Records (**http://www.newworldrecords.org**), a nonprofit music company founded in 1976 and committed to recording American music neglected by the larger labels, recognized these developing trends and decided to try to address them by refocusing its efforts on delivering music to its core constituency: libraries and educational institutions.

After several months of discussion with librarians and musicologists, New World Records also realized that there was a great, unmet demand for improved, integrated means of access to both high quality music and related materials. New World Records thus embarked on developing the Database of Recorded American Music (DRAM) as an entirely new way to deliver its extensive collection of recordings. They also decided that this venture into the use of new information technologies would be more successful if undertaken together with a university with experience in developing information systems.

And so it came to be in 2000 that New World Records began a partnership with the New York University Libraries to develop DRAM, with financial support from both the Robert Sterling Clark Foundation and the Andrew W. Mellon Foundation.

DRAM: Napster Meets the Digital Library

There have already been a variety of efforts, both commercial and non-commercial, to deliver music over the Internet, including centralized systems such as Napster, MusicNet and PressPlay, and P2P software such as KaZaA, Morpheus, and Gnutella. While these systems have been successful in making large amounts of music available to consumers, they suffer from a variety of defects.

The quality of audio files can vary tremendously depending on their source. All of the systems are inadequate for serious musicologists, as they lack detailed search facilities and access to non-audio materials related to the music. Intellectual property concerns have also resulted in most of the commercial online music ventures placing restrictions on the use of materials, a condition that consumers have generally found onerous.

In developing DRAM, New World Records and the NYU Digital Library Development Team have kept a variety of goals in mind:

- To provide access to high quality, full-length versions of all of the music in New World Records' catalog for which digital distribution rights have been secured from the copyright holders;
- To provide search facilities that go beyond artist/title searching to enable finer-grained searching (for example, the ability to distinguish between a particular artist as a composer and the same artist as a performer in searching for works) and which leverage the extensive information that New World Records already possesses about music in its collection to enable broader, topical access to musical recordings;
- To support users connecting to DRAM at a variety of bandwidths;
- To create a system that will eventually support user customization (for such features as search history, creating play lists, etc.).

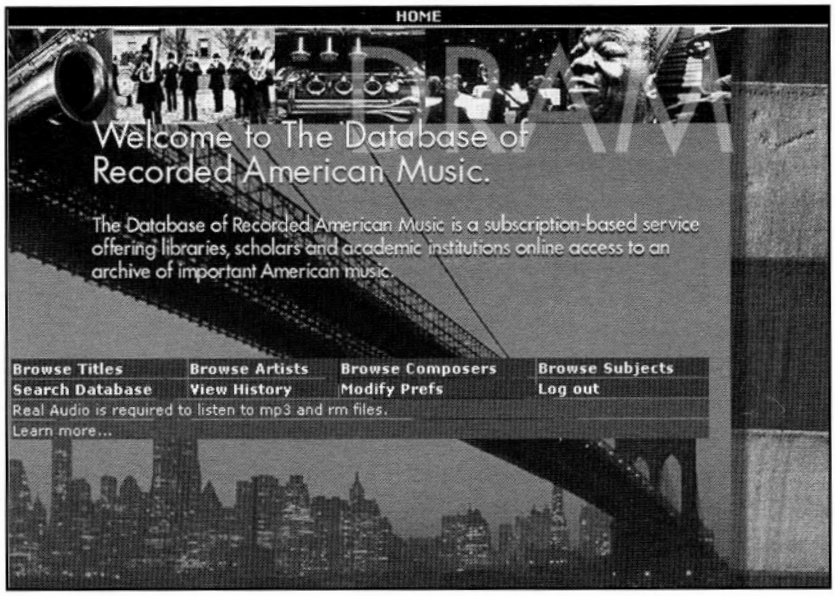
HOME
Welcome to The Database of Recorded American Music.
The Database of Recorded American Music is a subscription-based service offering libraries, scholars and academic institutions online access to an archive of important American music.
Browse Titles
Browse Artists
Browse Composers
Browse Subjects
Search Database
View History
Modify Prefs
Log out
Real Audio is required to listen to mp3 and rm files.
Learn more...

*Fig. 1. The main page of the DRAM website (**http://dlib.nyu.edu/dram/**).*

Initial development of a prototype for DRAM is now complete, and is available for use by NYU community members. The main web page of the DRAM system is shown in Figure 1. Members of the NYU community can access the system at **http://dlib.nyu.edu/dram/** and login using their NYUHome NetID and password.

At the moment, DRAM provides access to approximately 300 hours worth of music from New World Records' catalog in streaming format, as well as the full text of New World Record's extensive liner notes for their recordings.

After listening tests with a variety of audio formats, DRAM's development team chose to use RealAudio format for low bit rate streaming (32 kbps), and MP3 for higher bit rate files (192 kbps) to achieve the best sound quality for the differing stream rates.

Full text searching of album liner notes is already available, as is searching for artists simply by name or in conjunction with the role they played on a particular piece. Users can browse through lists of the items available in the system (arranged by author, title, or subject) or they can directly search for a particular piece of music.

DRAM's Future

At the moment, DRAM is operating as a research project supported by the Andrew W. Mellon Foundation, and as this is a research effort, we will continue to explore new ways in which DRAM might be developed. We are currently seeking new partners within both the music industry and the higher education community to expand the amount and type of music available in DRAM, and to solicit feedback from a wider audience within the higher education community as to how DRAM might be improved.

We will also be experimenting with new models for optimizing delivery of high quality audio files over the Internet, as well as with delivery of extremely high quality (24-bit, 96 KHz sampling) files over Internet2. Eventually, New World Records hopes to make DRAM available as a subscription service to libraries and educational institutions throughout the country.

New World Records and NYU staff would like NYU community members to test DRAM, enjoy the music available through the database, and let us know how you think DRAM could be made better—whether it's for your use as a tool in teaching or learning about music, or just for your listening enjoyment.[2] While we already have some ideas for ways to improve the system—such as allowing users to create play lists of recordings to be played back in sequence—the people best positioned to judge a system are its users. Please send your comments and suggestions to Rick Ochoa at *rick.ochoa@nyu.edu*.

Members of the Internet community deserve better access to quality music, and those of us working on DRAM hope it will be a large step towards providing it. Enjoy DRAM!

End Notes

1. At the same time, new small labels are being born in greater numbers than ever before, so the picture is more complicated than some industry statements and media reports would suggest.
2. We realize that one of the most desirable features for users would be the ability to download MP3 files for storage on home and office PCs, MP3 players, etc. Most of the music industry has resisted making unrestricted MP3 files available for download out of fear for the potential negative impact it might have on sales of CDs.

   New World Records, however, believes that this has not been proven, and will be experimenting in the coming months with providing unrestricted MP3s for download at their company website and seeing what impact this appears to have on their sales of CDs for these recordings. If there is no negative impact, DRAM will probably be enhanced to allow users to download MP3 recordings of material available in the database.

Jerome McDonough is Team Leader for the Digital Library Development Group at NYU Libraries.

KeyStroke Workshop at NYU

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One of the many types of work the Arts Technology Group (ATG) of NYU's Academic Computing Services does is investigate and explore emergent and evolving technologies, with a focus on digital tools used by artists.

As part of this research, I recently had the opportunity to attend a workshop held at NYU on a rather interesting multimedia (and multi-user) application from Holland called KeyStroke. This workshop was sponsored through the auspices of the ATG's Associate Director, Philip Galanter, who invited Ms. Sher Doruff of KeyStroke to come over from Amsterdam to demonstrate this software. Ms. Doruff led a full-day workshop on the software, with the help of her colleague Eric Redlinger and the support of the entire ATG. This workshop was attended by about a dozen members of the NYU academic community.

KeyStroke is an ever-evolving project of the "Waag Labs of the Society for Old and New Media". The "Society" is an Amsterdam-based, government-supported research and development endeavor that carries out research, develops new concepts and software applications, and initiates debate in the form of public events on the cutting edge of both old and new media. Fittingly, it is headquartered in a fantastic antique building in the heart of Amsterdam which was once a "weigh station" (or "Waag" in Dutch).

Sher Doruff is currently the project director of KeyStroke, and is also a media artist who has collaborated with many dance, theater, and music companies, working with real-time inter-

Figure 1. In this example of KeyStroke's output, the original LiveInput, a QuickTime movie (left), is patched to a DSP Modifier (Cropper). The resulting effect, or scaled up image, is displayed on the right.

active performance technologies in both physical and virtual spaces. According to Ms. Doruff, "KeyStroke promises optimal real-time synthesis of all digital media in a shared collaborative environment."

What is KeyStroke?

In a nutshell, KeyStroke is a media-processing tool. It is a tool designed for artists and media professionals—in disciplines ranging from music, theatre, dance, and performance art to video art, graphic design, and architecture—who wish to work collaboratively and in real-time over local and non-local networks. It's a powerful live and/or performance tool for interactive and interdisciplinary work, which allows communities of players to dynamically control and modify all aspects of digitized media in a collaborative performance.

KeyStroke allows multiple "players" or users to generate, synthesize, and process images, sounds, and text together in real-time within a shared "virtual multi-user environment" or shared virtual space. The concept of a "virtual multi-user environment" and real-time interaction between users is something you may have experienced already—even if without realizing it. If you've ever used any program like Instant Messenger (or any type of "chat" program), or any online or networked game such as Doom, IRC, ICQ, etc., you've been in a networked multi-user environment. This is where a user in one location interacts with another user elsewhere. This shared virtual space is where a KeyStroke "session" takes place. However, KeyStroke takes the concept further, allowing each user not simply to interact but also to actually modify or change what the other is doing—and this is where the "Art" comes in.

Virtual Multi-user Environments

An important and evolving concept in the art world, due to the simple fact of the Internet and computer networks, is that artists or users do not have to be in the same physical space to interact or collaborate with each other. It's quite possible for them to interact with each other in a shared virtual space, even if they are a hundred miles apart or on different continents.

For example, imagine a hypothetical scenario in which User #1 is in a club (in Manhattan) and types a poem into a computer using KeyStroke and puts it up in red text that appears on a TV screen. User #2 (in another club in Williamsburg) then modulates the color of this text, slowly changing it to blue. User #1 then speeds up the rate at which the color change occurs using a joystick, so that it now pulsates.

More Possible Keystroke Scenarios:

- Artists in various locations create and control a performance projected in a theatrical venue
- VJ's/DJ's control image and sound via a local network in a club
- Dynamic online workshops
- Non-linear-online storytelling
- Dynamic development of concepts by architecture or graphic design firms
- Multi-user gaming
- Dynamic video conferencing

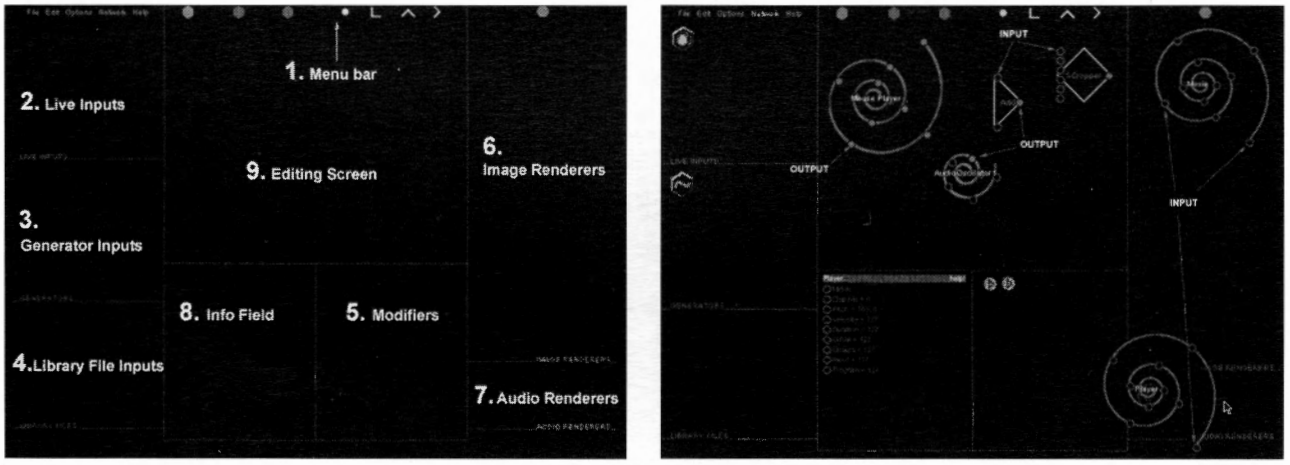

Figure 2. (LEFT) Patcher Screen (user interface) with areas defined. (RIGHT) Example of several inputs and outputs as they are viewed in the Patcher Screen. Within each module is a selection of inputs and outputs that send or receive data. Inputs are represented visually as empty holes, outputs as solid colored balls.

How KeyStroke Works

We take it almost for granted that these types of artistic tools come to us now in the form of software applications that can be run even on a laptop computer. This was not always the case. Once upon a time—say only about ten years ago—if, for example, a video artist wished to generate or mix effects live (as I used to), they might have used a rather large, expensive electronic device such as a Fairlight VMI, an early video synthesizer and effects generator.

Advance a few years and perhaps they might have used the aptly named and well-known Video Toaster, which had quite an impact in the video world. Remember Mike Myers doing Wayne's World? It was the Video Toaster that generated all those wonderfully cheesy effects, and is even still used in cable shows and in many late night TV ads you might see in the wee hours of the morning.

Advance a few more years and we encounter KeyStroke. Perhaps a simple analogy to describe how one might use KeyStroke would be to imagine it as a software-based "Erector Set" for processing video, audio, and images. The analogy is a fairly apt one, as KeyStroke has a bit of the same concept and feel as an Erector Set.

Figure 3. Input Modules

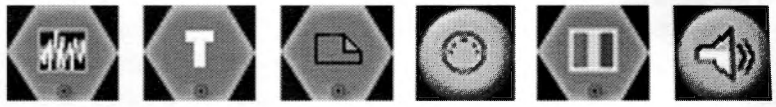

Figure 4. Renderer Modules

In the case of KeyStroke, the building blocks are called "modules" (see the icons above). Similar to the Erector Set paradigm, the modules available in KeyStroke can be connected together in an almost infinite number of combinations to accomplish different types of media processing. The modules are represented onscreen in KeyStroke's "Patcher" (its user interface) as little boxes or icons along with spirals, and what one must do is connect various modules together into a "patch" (session).

Figure 5. An example of a video image manipulated by KeyStroke.

KeyStroke Concepts

Modules are the building blocks of a KeyStroke patch and are divided into three main categories and ten subcategories according to their function. These include: Live, Library and Generator Input Modules; Logic, Mathematical, Analysis, and DSP Modifier Modules; and Image and Audio Renderers.

The three module categories are:

1. **Inputs**
   Media input sources that serve as controllers and content such as video, QuickTime movies, text files, audio files (AIFF), oscillators, mouse or Musical Instrument Digital Interface (MIDI). (See Figure 3.)

2. **Modifiers**
   These function as filters or modulators of data streams from Input or other Modifier Modules.

3. **Renderers**
   Renderer Modules render the signal provided by the Input or Modifier Module. (See Figure 4.)

Within each module is a selection of inputs and outputs that send or receive data. Inputs are visually represented as empty holes; outputs are solid colored balls (as seen in Figure 2). Modules are connected, or patched together, by dragging the data ball from the output of one module and using it to fill the input of another.

Conversely, the connection can be broken by dragging or emptying the data ball from the input. Modules are

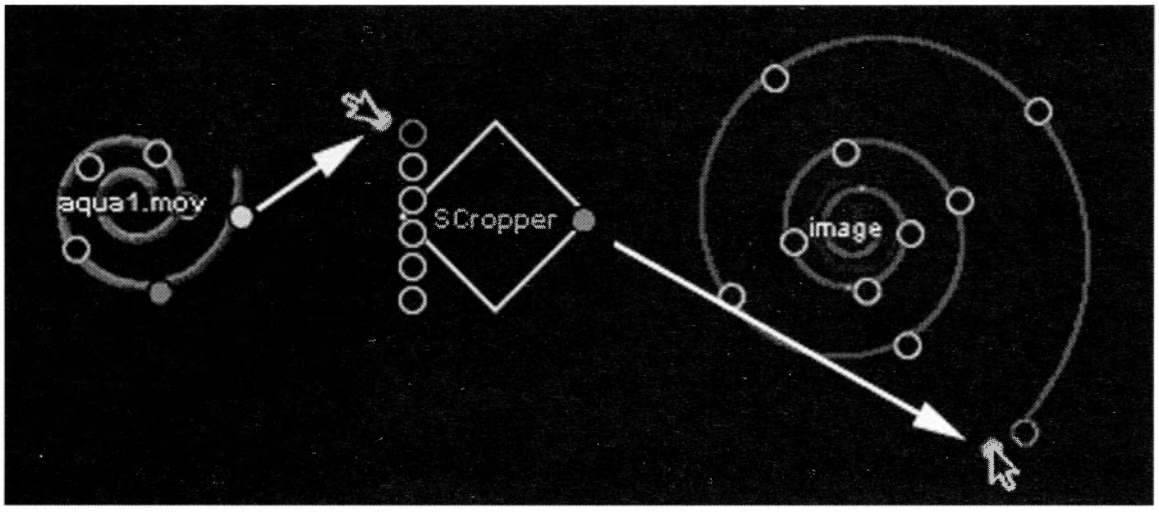

Figure 6. An example of a KeyStroke patch.

patched together from the left to right of the Patcher Screen. The order of patching is then Input to Modifier to Renderer. Inputs and Modifiers can also be chained together.

Live Input Modules

- Mouse
- Keyboard
- Video
- Sound In
- MIDI In
- Joystick

Media File Modules

- Text Files
- Audio Files
- QuickTime Movies
- Image Files
- WebCam

KeyStroke is a networked application that allows up to five "players" or users per session. These players bring their own local input/output devices into the performance. Player 1 may have a full MIDI rig while Player 2 has a digital video camera and microphone. All the participants can bring their keyboard and mouse into play as controllers. These devices, once established in the Patcher Screen, can control and be controlled by any other device as well as the media itself. In KeyStroke parlance, these are called Live Input Modules and include: Mouse, Keyboard, Video, Sound In, Joystick, and MIDI In.

In addition to Live Input media, players share the resources of File Libraries that may include text, movie, audio, image, and MIDI files. Each player can upload their files to the session and download the files of the other players at login. Files can also be up/downloaded at any time during the session. File formats currently supported include JPEG and PICT images, QuickTime Movies, text files, and audio files (AIFF).

Basic KeyStroke Features:

- A simple user interface; cross-media synthesis; live video processing; real-time interaction within a shared virtual workspace; support for image sources, including QuickTime movies, live and prerecorded video, QuickTime streams, scanned images (PICT or JPEG); generated audio waveforms; webcam URLs; text files and live keyboard input.
- A wide selection of graphical objects that allow you to import, modify, and display live and prepared media; flexible plug-in architecture allowing for third-party development.
- Support for numerous third-party cards, both audio and video; support for external MIDI control devices; flexibility for use either as a multi-user or single-user tool.
- A network infrastructure and interface; support for up to five players within one KeyStroke session; support for up to eight layers of rendered media within a KeyStroke session.
- Mac-based software (OS 9 available, OS X version in development).

As you can see, KeyStroke is a very intricate program. It has a great deal of potential, and is constantly evolving and changing as its users offer continual feedback to the development team in Amsterdam.

If you're interested in learning more about KeyStroke and its concepts in greater detail, explore the web links below for additional information.

http://www.keyworx.org
http://www.waag.org ⓘ

Jed Weaver, a senior staff member of the Arts Technology Group in ITS Academic Computing Services, specializes in digital video and audio applications.

ACS Facilitates Los Alamos MILAGRO Meeting

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On June 27th and 28th of this year, Professors Allen Mincer and Peter Nemethy of NYU's Physics Department hosted a meeting of the Multi-Institution Los Alamos Gamma Ray Observatory (MILAGRO) project researchers at NYU's Bronfman Center for Jewish Student Life (7 East 10th Street). Through the cooperation of ITS Academic Computing Services and the ITS Network Operations Center, NYU was able to provide these researchers with secure and reliable access to the technological resources they required during their stay.

Nine institutions across the U.S. are participating in the MILAGRO project (see the end of this article for details). The experiment is designed to study "very high energy" (VHE) gamma rays produced in astrophysical sources.

Since the human eye is only sensitive to a narrow range of the electromagnetic spectrum, when we look up at the night sky we see only the objects (such as some stars) which emit light at these wavelengths. By looking at the sky at different wavelengths, however, the MILAGRO researchers can see objects that would not otherwise be visible and can learn about the physical processes responsible for their emissions.

The experiment uses a detector that measures very high frequency light, consisting of particles called VHE gamma rays. Some of these particles are produced by the most energetic processes we know of, such as the explosion of stars, which can create black holes.

The MILAGRO detector is located at an altitude of 8,650 feet in the Jemez Mountains near Los Alamos, New Mexico, and consists of a man-made pond that is 25 feet deep and the size of a football field (see Figure 1). The pond is filled with water and particle detectors (see Figure 2).

When a VHE gamma ray hits the top of the Earth's atmosphere, it interacts with particles in the atmosphere and produces more particles. These secondary particles in turn interact to produce more particles,

Figure 1. The MILAGRO detector is located high in the Jemez Mountains of New Mexico.

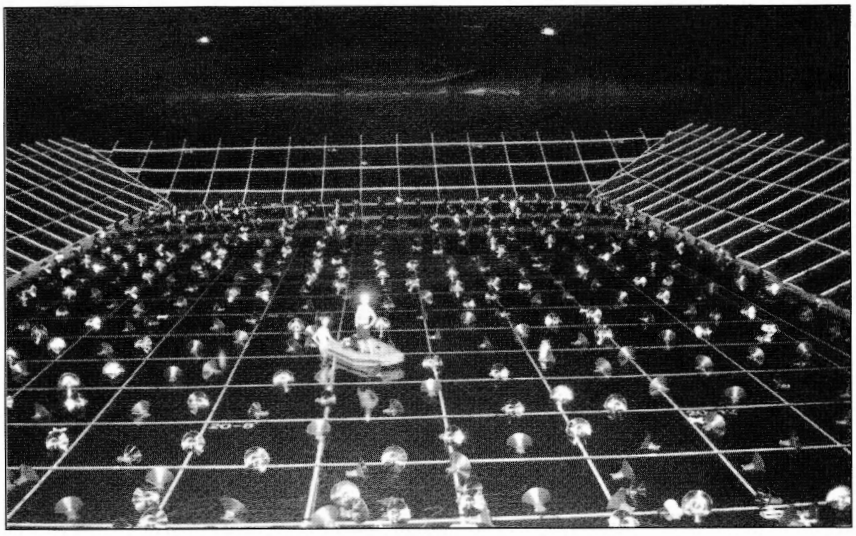

Figure 2. Physicists at work in the MILAGRO detector pond (shown partially full here).

generating a large cascade. When these particles hit the pond detectors, their number and arrival time allow the scientists to reconstruct the arrival direction and energy of the original VHE ray.

One of the most interesting aspects of the MILAGRO project is that it can be remotely controlled. For example, as Dr. Mincer was contributing to this article from the Los Alamos National Laboratory, he was paged by one of the experiment's computers and told that a high voltage channel had turned off. He went to the website to find which channel had turned off, then logged on to the control program and reset that channel.

This remote monitoring is much more efficient than having to take the 45-minute drive to the detector site to switch on the voltage, and is certainly better than having to watch the voltage supply around the clock in case of a problem. Of course, Dr. Mincer could only do this because he knew that occasional current fluctuations cause the channel to trip. If it had shut off again, he would have had to take the drive and find the cause of the problem.

Although he reset the channel from Los Alamos, in principle, Dr. Mincer could also have done this in the exact same way from NYU. Via the Web, the experiment's collaborators can monitor all phases of operation and essentially "never have to leave home."

Physicists at each of the institutions collaborating on this project work on different components of the detector hardware, software, and analysis. Although researchers are in touch by phone and e-mail, and meet at the detector site, they also have offsite meetings a few times a year to exchange information and discuss the work they have been doing. The recent NYU meeting was a particularly interesting one because the project is beginning to obtain some exciting measurements that need to be prepared for publication.

As a result of discussions at these meetings, researchers frequently needed to check data or run simulations, often producing graphical output. The 35 participating physicists at the NYU meeting also needed to check e-mail while they were away from their home institutions. In addition to having beautiful meeting facilities, NYU's Bronfman Center has a computer room with a dozen stations maintained by ITS Academic Computing Services, making it an ideal place for the researchers to meet. However, the computers were only useful because participants could securely log on to remote sites and examine graphical output.

Through the combined efforts of ITS Academic Computing Services and the ITS Network Operations Center, the meeting attendees were able to complete all of their necessary tasks and keep in contact with their home institutions, all while maintaining the necessary security level for the NYU and Los Alamos networks.

The MILAGRO experiment collaborators are from:

- George Mason University
- Los Alamos National Laboratory
- New York University
- University of California, Irvine
- University of California, Riverside
- University of California, Santa Cruz
- University of Maryland, College Park
- University of New Hampshire, Durham
- The University of Wisconsin

The experiment is funded by the U.S. Department of Energy (DOE), the National Science Foundation (NSF), and the University of California.

For further information about the MILAGRO experiment, visit: **http://www.physics.nyu.edu/~am3/milagro.html**. ⓘ

Professor Allen Mincer is an Experimental Physicist working on particle physics and particle astrophysics, and is Chair of NYU's Physics Department; Matthew Zimmerman is a Humanities Computing Specialist in ITS' Academic Computing Services.

Improve Your Relationship with NYU DIAL

Tips and Troubleshooting for All Users

Eduardo De Leon
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What Is NYU DIAL?

Direct Internet Access Link (DIAL) service comes with your NYUHome service, and allows you to link by telephone and modem to NYU-NET from your home or while traveling. With this link established, you can use desktop Internet tools such as Internet Explorer, Netscape, Eudora, or Mozilla.

Dial-up users can, however, encounter a number of problems before establishing a successful network connection to an Internet Service Provider. The purpose of this article is to provide some explanations of common problems and offer suggestions for their solution.

About Modem Connectivity

While broadband connections are increasingly popular nowadays (e.g., cable modems, DSL, wireless), most people still use a dial-up modem and a phone line as their primary means of connecting to the Internet. Dial-up connectivity has the advantage of being a reliable way of connecting when other methods are not available.

Dial-up connectivity works by coordinating the exchange of data between two computers. At NYU, this coordination occurs between the modem on your computer (the "local" modem) and a modem on NYU-NET (the "remote" modem). Once the two modems can establish a stable connection at a reliable speed (a process which is often called "handshake"), the remote modem asks for authentication (username and password). If the user logs in with the correct information and the authentication succeeds, the two modems will agree on the language they will use to communicate back and forth (configuring the Point-to-Point Protocol [PPP]), and your computer will be successfully connected to NYU-NET.

NYU DIAL Statistics

The dial-up link to NYU-NET is handled by several hundred modems, which typically accommodate between 10 and 20 thousand successful connections per day. These modems support connections speeds of up to 56 kilobits per second (kbps)—commonly known as 56K—and a variety of protocols to manage connection requests from our clients.

A term like 56K is used to indicate a theoretical maximum speed of connection, not necessarily the actual speed at which a connection is occurring. The speed of the established connection is usually somewhat lower, and depends on the stability of the connection (clarity and strength of signal, noise on the line, error correction protocols, etc.).

At any given moment, NYU-NET modems may be handling over a thousand simultaneous connections; on an average day, 16,000+ connections will be made (96.5% of which will be successful). The speed of most connections to NYU-NET through DIAL service falls in the range of 44K to 53K, and connections last an average of about 39 minutes. Usage varies depending on the day of the week, and the time of day; it is usually at its lowest in the mornings and on Sunday afternoons. Sunday nights and Mondays, Tuesdays and Wednesdays, by contrast, are some of the busiest call times.

Common Connectivity Problems (& How to Fix Them)

When connecting to NYU-NET through DIAL, your computer may encounter obstacles to establishing a successful connection. The following are some of the problems most commonly reported to the Client Services Center.

1. **Invalid username and/or password:** The proper username for DIAL service is your NetID. The NetID is a network identification token that allows you to use a number of ITS services. It is usually printed on your NYU Card, on the bottom left corner. If you do not know your NetID and it is not printed on your NYU Card, please visit **http://start.nyu.edu** to find out what it is. Both the NetID and the password are case sensitive, so make sure that you enter them correctly, using the appropriate (upper or lower) case.
2. **Remote server is not responding:** This error can be due to high usage. Just try again in a few minutes. You might also check to make sure that the dial-up phone number is correctly entered (1-212-253-4698).
3. **The line is busy:** This can be due to high usage. Try again in a few minutes.
4. **There is no dial tone:** Your computer's modem is not detecting a dial tone. Check to make sure that the phone line is properly connected to the modem and make sure the phone line has a dial tone (plug a phone into that line, and pick up the handset to listen for a dial tone).
5. **Connection established successfully, but cannot browse websites or check e-mail:** This is usually due to errors in configuration of the dial-up connection. Check the dial-up settings to make sure they are correct, then try dialing again. This could also be a sign that the PPP protocol on the local modem is not working properly; try resetting the modem.
6. **Disconnects after "Verifying username and password":** This is usually a sign that either the username or the password you entered does not match what we have on record; check the username and password. You can also try changing your password and then dialing-up again.
7. **In Windows, using Novell to mount shared drives:** Some clients who report that they cannot establish a DIAL connection from their laptops to NYU-NET also use Novell to mount shared drives. In the Network control panel, make sure you set "TCP/IP->Dial-up Adapter" to be your default protocol, and set the Primary Network Logon to "Client for Microsoft Networks".
8. **There is no answer:** This error can be displayed for different reasons. The DIAL service may be at capacity, and unable to accept more connections. Or, your computer may not be dialing the correct area code; check to make sure that your computer is using the right area code rules. Please note that all calls in NYC now require the use of 1 + area code, even if you are calling within the same area code (see page 31 of this issue).
9. **Disconnects after a few minutes:** This can be due to incoming phone calls on your line. To disable call waiting, enter *70, (#7, if you are dialing from an NYU Residence Hall) before the DIAL phone number. This can also be due to poor connection quality, or noise on the telephone line. If there is noise on the line when you talk on your phone, you may want to have the telephone company check your line.
10. **Connection is extremely slow:** This can be a sign that the modem is not configured properly. Try resetting the modem to factory settings (see below).

Resetting the Modem

Resetting the modem to its original settings can sometimes help to fix problems with a dial-up connection. If you are using a Windows computer, resetting the modem can be done in several ways. If it is an internal modem that came with the computer, you can remove it from the System Control Panel and restart the computer. When the computer restarts, it will automatically detect and reinstall the modem with its original factory settings.

If you would like to reset the modem on a Macintosh, change the "Connect Via" option in the Modem control panel to anything other than "Modem Port" (please note that this option will not be available if it is an Apple internal modem), then shut down the computer and leave it turned off for one minute. When you restart the computer, change the "Connect Via" option in the Modem control panel to "Modem Port". The modem will be reset. If your computer has an Apple Internal 56K Modem, just shut down the computer and leave it off for one minute, then restart it.

Tips for Improving Your Connection

Generally, computer and modem manufacturers release "flash" upgrades to their modems. It is a good idea to check to make sure that your modem is up to date. Visit the manufacturer's website and browse for the specific model of your computer or modem, and look for updates to download. This applies even for new computers.

If you use another Internet Service Provider, try uninstalling their networking software, then restarting your computer and dialing-up again. Sometimes DSL and/or cable modem configurations conflict with NYU DIAL.

In Windows, if you ever get an "Error 633/Port is in use/already open" message, check to see if you have a HotSync daemon running in the system tray (bottom right corner), or any other device that might be using the same communications port (COM1, COM2, COM3, etc.) as your modem.

When dial-up connections fail, the software typically gives an error message and an error code. These codes are useful for troubleshooting the problem. Write down these error codes and messages so that if you need to call the ITS Client Services Center, we can help you more quickly.

Using The ITS Client Services Center

The ITS Client Services Center has a help line that is open to all NYU faculty, staff, administrators, and students for help with connecting to NYU-NET. Our team of professionals will help you troubleshoot and fix your dial-up (or other) connections, so that you can continue with your academic work. Our phone and e-mail hours are Monday-Friday, 8:00 am to midnight, and Saturday-Sunday, noon to midnight. At other times, you may leave a message and expect a call within 24 hours. Call us at 1 (212) 998-3333, or send e-mail to: *its.clientservices@nyu.edu.*

For in-person help, you can visit the ITS Client Services Center at 10 Astor Place, 4th Floor, Monday-Friday, 9:00 am to 6:00 pm. Appointments are recommended for those having trouble connecting with a laptop computer. Call 1 (212) 998-3333 to make an appointment.

Getting More Help

- If you are about to use NYU's DIAL service for the first time, visit the ITS Start website at: (**http://start.nyu.edu**) to set your password and determine your NetID (if you don't know it already).
- For detailed instructions on using DIAL on a variety of computer platforms and operating systems, visit the NYUHome help pages at **http://home.nyu.edu/help/connecting/dial/** or read the DIAL instructions on the NYU-NET CD (see below).
- If you have not configured your Internet connection and/or you would like free software and instructions on using DIAL, pick up the NYU-NET CD at any of the ITS computer labs, the ITS Client Services Center (10 Astor Place, 4th Fl.), or the Bobst Library ERC (B-Level of Bobst).
- For troubleshooting help with dial-up connections in Windows, check Microsoft's support website at **http://support.microsoft.com**. A particularly useful document is *Microsoft Knowledge Base Article – Q163111*, which lists the error codes that the Remote Access Service reports in Windows.
- For troubleshooting help with dial-up connections in Macintosh, visit Apple's Support website at **http://www.info.apple.com**. While there, you can use their Knowledge Base to find product-specific support information, or you can search the Discussions for community-based help.

If you have additional questions or comments, please contact the ITS Client Services Center by calling 1 (212) 998-3333 or sending e-mail to *its.clientservices@nyu.edu.*

Eduardo De Leon is a Client Services Specialist in NYU's Information Technology Services.

The ITS Client Services Center on the 4th Floor of 10 Astor Place.

A New Look for the ITS Tisch Hall Computer Lab

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This fall, the ITS Tisch Hall computer lab at 40 West 4th Street is sporting a new look and feel. During the summer of 2002, the LC8 portion of the lab underwent a major renovation. The furniture and wall coverings (which had seen some 15 years of service) were all replaced, and carpeting was added to reduce the noise generated by foot traffic on the raised floor. Two new walls, which will further reduce ambient noise, were constructed to hide unsightly HVAC units at each end of the lab.

This summer's work was the last phase of a long-term renovation project. In the summer of 2001, ITS offices in LC7 were demolished so that a new thirty-seat Windows-based classroom could be built. This classroom is available for reservation by NYU faculty to supplement the courses they teach.

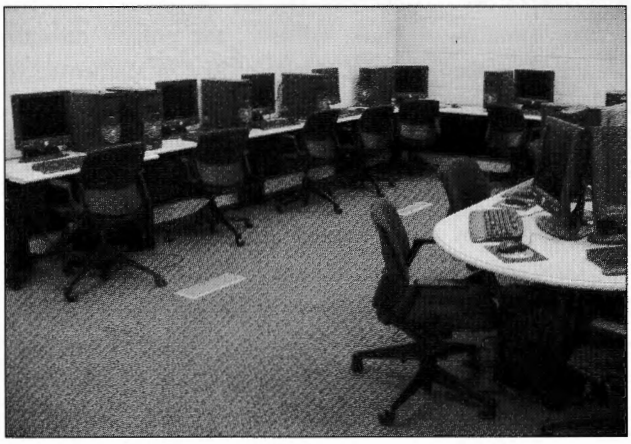
Along with the new construction and furnishings, the sixty-four Windows computers in the lab have been replaced. They now have 2-GHz Pentium 4 processors with 512 MB of memory and a 250-MB Zip drive. As part of our ongoing efforts to provide improved computing facilities, these systems were also fitted with 17-inch flat panel displays and CD-RW drives. The new, larger displays allow for higher screen resolutions. The new CD-RW drives also allow clients to save projects of up to 700 MB easily and lower their media costs by re-using CD-RW discs.

The Tisch Hall Lab offers extended overnight hours for midterms starting the sixth week of the semester. The lab extends its hours again four weeks before final exams begin and remains open from noon on Sunday until 5:30 pm on the following Saturday.

Even though our look may have changed, the ITS Tisch Hall lab will continue to provide the same applications support in computer programming, web design, statistical analysis and mapping, and multilingual word processing, along with course-specific applications. As with all ITS labs, access is available to all current faculty, staff, and administrators, and to students in degree or diploma programs. Please be sure to bring your NYU ID Card when you visit the lab.

Please check the ITS labs web page at **http://www.nyu.edu/its/labs/** for more details. If you're an NYU faculty member interested in reserving the ITS Tisch Hall LC7 classroom, please send your request to *john.bako@nyu.edu.* ⓘ

John Bako is the Manager of the Tisch Hall computer lab for ITS Academic Computing Services.



Collaborating for the Better Good

ITS Teams Up with New York City Transit

Antonio Lopez
AnLopez3@NYCT.com

The Strategic Planning Unit of the Metropolitan Transit Authority's New York City Transit MetroCard Operations (MTA NYCT MCO) has entered into a collaborative relationship with NYU Information Technology Service's Social Science, Statistics and Mapping Group. The project has formed a working group that combines statistical and geographic information systems (GIS) technologies into a tool that supports strategic planning for MetroCard sales operations.

The project started at the beginning of the spring 2002 semester. Under this collaborative effort, students are given the opportunity to work at the MTA NYCT through the agency's internship program. These students work closely with the Strategic Planning Unit's Senior Planner/GIS Analyst on database, statistics, and GIS strategic planning applications. The goal is to combine a wealth of resources from various public, private, and academic sources under one project led by MCO Strategic Planning.

As a result, MTA NYCT strategic planners, NYU researchers, and undergraduate and graduate students from NYU, Hunter College's Geography Department, and the CUNY Graduate Center combine their varied expertise and skill sets while working on a "real-world" application, which, in return, provides students with a conduit for employment.

The first task that the group of social scientists, planners, and interns faced was to set up computer hardware, software, and databases at NYU's ITS Academic Computing Services (ACS) facilities that adhered to the needs of the project. Because of the importance of geographic information to the project, an accurate basemap of New York City, known as the NYCMap, was installed on one of the ITS Social Science, Statistics and Mapping Group's servers. This database consists of a wealth of geographic information that was collected under the New York City NYCMap project.

The foundation of the map consists of a mosaic of highly detailed aerial photographs that were commissioned by the City of New York in the fall of 1996. These aerial photographs were then "geo-rectified" to correct for geometric errors that are introduced when modeling a three-dimensional surface on a two-dimensional plain.

The result was a highly accurate "ortho-map", which was then used to build multiple layers of geographic features throughout the city. These features consist of transportation infrastructure such as streets, expressways, bridges, subway-lines, subway stations, etc. Themes of other layers include tax lots, city blocks, land-use zones, and census tracts. Because the NYCMap project is not complete, several other sources of geographic information were combined to overlay the NYCMap.

The second task faced by the group was to collect a wealth of demographic information and relate it to geographic features on the NYCMap, such as census tracts and subway stations (see Figure 1). The geographic distribution of demographic attributes of the population is critical to strategic planners when modeling various aspects of the "real world." It is also critical for making informed decisions.

In light of the multi-disciplinary requirements of strategic planning, the team was assembled to include experts, professionals, and students with varied academic and professional backgrounds. The relationship with NYU is important to MCO Strategic Planning because it taps into the University's diverse resource pool.

The research team of social scientists in the ITS Social Science, Statistics and Mapping Group at NYU is extremely valuable in helping to ensure that the MCO Strategic Planning group implements sound methodology in the analysis. The experts in this group are Frank LoPresti, the group's director and a Master of Arts in Mathematics; Robert Yaffee, a Ph.D. in political science and a well-known statistician; and Yakov Smotritsky, a Ph.D. in Mathematics and a life-long GIS researcher. This group and the pool of students available at NYU allow our strategic planners to draw from the skill sets and expertise of various academic disciplines, which are necessary for effective strategic data analysis.

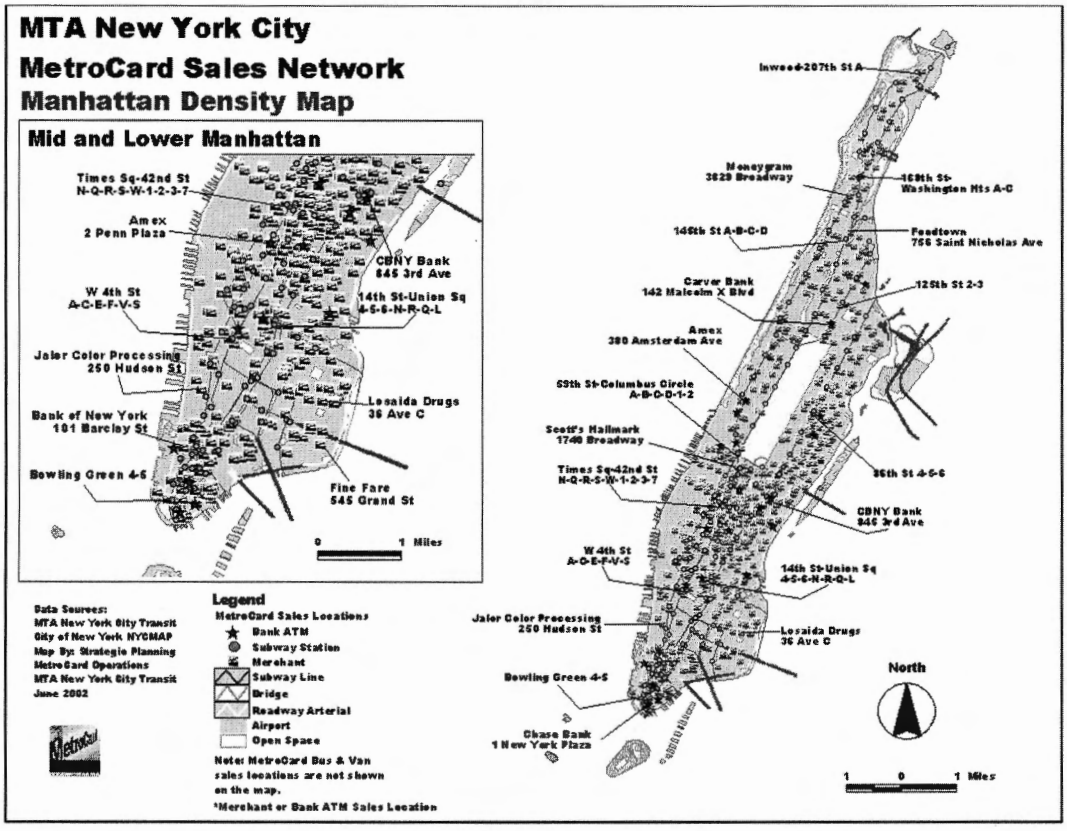


Figure 1. An example of a graphic compiled by the working group that combines demographic and geographic information to aid in strategic planning.

The role of strategic planners at MCO is not to strategize but rather to perform data analysis that will aid senior managers in formulating strategy. We do this by illustrating, and sometimes uncovering, patterns and relationships in the data that are pertinent to our organization's business operation.

As a field, the focus of strategic planning is on the key strategies that must be addressed by an organization and the actions that must be taken in order to succeed. GIS and statistical analysis packages such as ArcView and SAS integrate data that are internal and external to the organization, assisting planners and decision-makers in clarifying assumptions about the future and setting a direction.

In brief, this collaborative effort between MTA NYCT MCO Strategic Planning, NYU, and CUNY allows all participants to benefit from the relationships established by the working group.

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Your Guide to NYU Forums

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E-mail is a powerful tool for communicating with people, and e-mail lists extend this power to whole groups of people. NYU Forums is the mailing list service used by NYU faculty, staff, administrators, students, and alumni to enhance their academic collaboration, departmental communication, and discussion of special interest topics.

This service allows discussion not only via e-mail, but also through a web interface or a news-reader. For this reason, we also refer to discussion "lists" as "forums". NYU Forums currently hosts more than 1,300 discussion and announcement lists, with over 183,000 subscriptions and over 2 million messages delivered every month.

In 1999, ITS successfully transitioned the hosting of the NYU Forums service from Listproc, an e-mail command-based list server, over to the web-based Lyris ListManager. In spring 2002, Lyris was upgraded to version 5.0. It is now running on its own dedicated server, using an Oracle database to store its information.

Our previous version of Lyris used a FoxPro database on a shared machine that required frequent database compacting, resulting in monthly system interruptions. Now, with Oracle, we have a manageable database with continuous up-time and regular maintenance. We have also implemented Trend Micro Anti-Virus software on Lyris' mail server to track and clean infected mail messages before they are distributed to any forum.

Very minimal changes were made to the front-end web interface. However, the upgrade added two notable features to the forum administration that benefit all List Administrators. The first provides better control over the Members list, and the second provides new mail merge tags for message customization. These features are covered in more detail in the second section of this article.

We hope that you find NYU Forums to be a convenient and effective tool for facilitating all of your communication needs here at the University. If you are interested in creating a forum, please visit: **http://www.nyu.edu/its/lists/**.

If you have questions or comments after reading this article, or when using NYU Forums, please write to *admin@forums.nyu.edu*. We welcome your feedback.

This article is divided into two main sections: *Information for NYU Forums Subscribers* and *Information for List Administrators*.

SECTION ONE: INFORMATION FOR NYU FORUMS SUBSCRIBERS

NYUHome and NYU Forums

Accessing the forums to which you belong is as easy as logging into your NYUHome account and visiting the Forums channel in the Home tab. All of your forums should be listed there. If you subscribe to a forum with your "preferred e-mail address" (the one used for official NYU e-mail correspondence and listed in the online directory), then you will see all your forums listed in the Forums channel. If you *do not* see one of your subscribed forums listed, you may have subscribed with a different e-mail address. If you have questions about this, please write to the NYU List Team at *admin@forums.nyu.edu*, and we can check your subscription addresses.

Click on the link to the forum you wish to visit, and you will be brought to the forum's web interface, where you can read and send messages. You may also receive and send mes-

sages in your e-mail account, but if you have missed any of the discussion, the web interface for the forum will have the archived messages threaded by topic.

To view a list of forums available to the general NYU community, click on the "Subscribe to an NYU Forum" link within the Forums channel on the main NYUHome screen. To subscribe to one of the forums, put a check mark in the box next to the forum name and click the "Subscribe" button.

Keep in mind that forums may be set up with different privacy restrictions to control subscriber requests. For example, a list may be:

1. **Open** - The list is available for membership subscription by the general NYU community. An open list may also be open for membership subscription by non-NYU affiliates.
2. **Closed** - The list is not available for membership subscription by the general public (NYU and non-NYU). Only the List Administrator may subscribe the appropriate individuals.
3. **Private** - The list has restricted membership, but an individual may request permission to subscribe. The List Administrator reviews each subscription request.

Depending on the way the privacy restrictions are set up when you first subscribe to a forum, you will receive an e-mail that contains either:

1. A "welcome" message (if the list is "open" to anyone).
2. A message saying that the forum is "closed" and only an Administrator can add members (if the list is "closed").
3. A message saying that your request must first be approved by the list administrator (if the list is "private").

If you know the name of a list you wish to join, a quick way to subscribe is to send an e-mail to: *join-listname@forums.nyu.edu* where "listname" is the name of the list. For example, say you wanted to join the "jazztalk" forum. You would send an e-mail to: *join-jazztalk@forums.nyu. edu.*

Troubleshooting Your NYU Forums Subscriptions

Error Messages

Lyris scans all incoming messages before it distributes them to a forum. If the message cannot be delivered, Lyris will send back an error message.

A common error message you may receive says that your message could not be delivered because you are not a member of the forum. Certain forums are set up so that only subscribed members are able to post, while others allow posting from members and non-members. If you receive this error message and you *know* you are a member of the forum, you should check the header fields in your mail program to ensure that the e-mail address in the "From" header field matches the e-mail address with which you've subscribed to the forum.

If you cannot remember the e-mail address with which you subscribed, you should send an e-mail message to the list owner for more information. To contact the list owner, write to: *owner-listname@forums.nyu.edu* where "listname" is the name of the forum.

Another error message you may receive is: "Sorry, your message was not sent out to 'jazztalk' because the first word of your message looks very similar to a system command. If it is a command, you should e-mail it to: *lyris@forums.nyu.edu*. If your message is definitely not a command, and is instead an e-mail message that everyone on 'jazztalk' should receive, then you should re-send your message, changing the first word so that it does not cause this warning."

Lyris scans the subject line and the first line of all incoming messages for particular keywords in order to prevent certain messages from being posted to lists, such as return receipts, mail error messages, automated vacation responses and requests to be removed or unsubscribed. If the subject line or first line of your message contained such words as "remove", "read", "vacation", or "out of the office" you should alter the text or, in the case of the word or phrase appearing in the message body, simply put a blank line first and re-send the message.

Bouncing Mail

Bounced mail is e-mail that cannot be delivered. Mail bounces for many reasons; the most common reasons are e-mail address misspellings, e-mail address changes, full account mailboxes, or problems with the recipient's mail server. With Lyris, mail may also bounce if a vacation message or a return receipt feature is enabled.

How does bounced mail affect your subscription? Forum List Administrators receive error messages when mail sent to a member's address bounces. If you bounce messages, the forum's administrator may remove you from the member list immediately, or let you continue to bounce mail for a short time to see whether the delivery problem is resolved.

If you suddenly stop receiving mail from your forum, check to see if you have reached your NYUHome account mailbox quota. For more information on what to do if you have exceeded your NYUHome mail quota, see: **http://home.nyu.edu/help/setup/quota.nyu**.

In addition, if you are leaving town and plan to enable the vacation

message for your NYUHome mail, it is best to change your forum settings so that you do not receive mail from your forum(s) while you are away. You do not need to unsubscribe, but simply change your mail delivery settings so that you receive no mail from the forum.

To do this:

1. Log into the web interface for your forum. You can access your forum through your NYUHome account's Forums channel, or by going to **http://forums.nyu.edu** and typing in the name of your forum.
2. From the main menu, select the "Your Settings" button.
3. Find the section called "Status". From the drop-down menu, select the option for "nomail: receive no mail from this mailing list".
4. Click the "Save" button to save your changes.
5. To resume the delivery of mail from the forum, repeat steps 1-3 above, but change the "Status" settings from "nomail" back to what you had previously. The most common setting is "mail: receive messages as they are contributed". Then click the "Save" button to save your changes.

Also, if you're sending mail from your NYUHome account, it's best to disable the "return receipt" setting before sending mail to an NYU Forum.

SECTION TWO: INFORMATION FOR LIST ADMINISTRATORS

All List Administrators should have a copy of the *List Administrator Guide*. The *Guide* provides basic information about list owners' responsibilities. To request a copy, send an e-mail to: *admin-guide@forums.nyu.edu*.

As mentioned earlier, the Lyris software upgrade added two features to the front-end forum administration.

1. **Member Search Box**
   This is a new feature in the "Members" page accessed from the List Administrator Menu. List Administrators will now see an empty text box at the top of the Members page that may be used to perform quick searches of the member list. This feature is extremely useful for forums with many subscribers. A List Administrator may edit a member's settings or remove a member from the list.

   Please note that this text box should *not* be used for adding members to a forum. Click on the "Create Member" or "Create Many Members" button to add new members to the forum.
2. **New Mail Merge Tags**
   Mail merge tags are used in "Hello" documents (the welcome message a new subscriber receives) and allow for the personalization of a message using a subscriber's individual settings. They can also be used in any message you send to your forum. Many of the mail merge tags were updated during the software upgrade. Information regarding the updates is available at: **http://forums.nyu.edu/lyris/help/mailmergeshorttags.html**.

Troubleshooting Your NYU Forum

Deleting Members Who Bounce Mail

As you know, Lyris sends an error message to you when mail sent to a member's address bounces. The error message usually provides information as to why the message has bounced.

In the notification, you will be shown a two-line command to delete the member's address from your list and instructed to send this command to: *lyris@forums.nyu.edu*. Or, you can log into the web interface for your list to remove the member:

1. From the web interface of your list, go to the List Admin menu.
2. Select the "Members" button.
3. On the Members page, type the member's address into the Member Search Box window at the top of the page.
4. Put a check mark in the box next to "Are you sure?"
5. Click on the button to "Delete member".

You can choose to remove the member's address immediately, or wait a day or so to see if the address continues to bounce mail. Some bounces are caused by temporary server problems on the recipient's end. However, if the bounce was caused by an exceeded mailbox quota, the recipient must "clean-up" the mailbox. If the e-mail address is an NYUHome account (NetID@nyu.edu), you can send the NYU List Team the NetID and we can check the member's account status. Send the NetID to: *admin@forums.nyu.edu*. If the e-mail address is a non-NYU account, you may wish to simply

remove the member's address from your list.

If the error message does not include extra information about why a message has bounced, it is possible that the recipient had either a vacation message or a return receipt setting activated in their mail account. If you have questions as to why a message has bounced, feel free to contact the NYU List Team at: *admin@forums.nyu.edu*.

Protecting Your Forum from Spam and Viruses

Receiving spam on an NYU Forum is a given, especially if your forum's e-mail address is publicly available. The current crop of e-mail viruses has also contributed to the high volume of unwanted and unsolicited mail.

ITS cannot block unwanted or unsolicited e-mails since our efforts would inevitably block some legitimate messages as well as messages that may be of interest to some in the NYU community. However, as mentioned previously, Lyris uses Trend Micro Anti-Virus software on its mail server to prevent viruses from spreading into NYU Forums. Infected messages are cleaned before being distributed to any list.

If you wish to prevent the delivery of these "cleaned" messages or random spam messages, you can change the posting privilege settings on your list or set up a Lyris "action phrase".

Changing Posting Privileges

If you change your forum's posting privilege settings so that only members can post, then those who are not subscribed to the list cannot send mail to the list. Those non-members who try to post will receive a "message-rejected" notification.

To do this:

1. From the web interface of your list, go to the List Admin menu.
2. Select the "List Info" button.
3. Scroll down to the section called "Posting Privileges and Moderation".
4. In the option for "Non-Members Can Post", change the drop-down menu from "Yes, anyone can contribute to the list" to "No, only members are allowed to contribute to the list".
5. Scroll down to the bottom and click the "Save Mailing List" button.

Creating an Action Phrase

If you set up an "action phrase", you can catch specific spam before it reaches your list and filter the mail. An "action phrase" may be a word or phrase that appears in an incoming e-mail's subject line or in the actual body of the message.

To do this:

1. From the web interface of your list, go to the List Admin menu.
2. Select the button for "Action Phrases".
3. Click on the "Create Phrase" button.
4. In the "Phrase" box, type in the words or phrases from the mail you wish to reject. Some examples are subject lines such as "Free Printer Cartridges", "Lose Weight in 10 Days", "A funny website", or single words such as "Jimmy" or "Klez".
5. In the "Response" section, change the drop-down menu to the "nothing" option. Choosing this option will cause the mail message that generated the "action phrase hit" to be discarded.
6. In the "Rule" section, choose the option that suits your needs. For example, if you want Lyris to look for the phrase "Free Printer Cartridges" anywhere in the message, then select the option "phrase appears anywhere in the message". A safe option is to pick "phrase appears in the message body" unless you're specifically looking for a subject line and then you would pick "phrase appears in the subject line"...and so on.
7. The "Context" section only has one option—the list that you're working on. You do not need to make any changes here.
8. In the "Notify" section, you *could* put your e-mail address if you wanted to know each time that Lyris finds an objectionable posting to your list. Keep in mind, though, that this could mean a lot of mail. You may wish to leave it blank.
9. The "Replace with", "Run a program before", and "Run a program after" sections should be left blank.
10. Click the "Save" button to put the action phrase into effect.

Banning E-mail Addresses and List Moderation

Forums that are open to the public and allow non-members to post may be plagued by off-topic or promotional messages. Or, someone may join your list specifically to post objectionable or irrelevant messages. If a subscriber on your forum using an NYU e-mail account is harassing or abusive, you should feel free to contact *security@nyu.edu* for assistance.

Otherwise, you have options that allow you to prevent these types of postings. You can consider deleting the e-mail address of the member who is posting the off-topic message, or if the message is from a non-member, you can ban the particular e-mail address from posting to your list. To delete a member's address, follow the instructions in the "Deleting Members Who Bounce Mail" section earlier in this article.

Banning E-mail Addresses

Banning an e-mail address may be useful, for example, when trying to prohibit commercial organizations from sending promotional messages to your forum.

To do this:

1. From the web interface of your list, go to the List Admin menu.
2. Select the "List Info" button.
3. Scroll down the page to the section called "Security for Subscribers".
4. In the option called "Banned Members", type in the e-mail address you wish to ban from your list.
5. Scroll down to the bottom of the page and click the "Save Mailing List" button to save your changes.

List Moderation

Moderating messages gives you more control over your forum, as it allows you to approve or reject all messages sent before they are distributed to your list. If your list is not an announcement list (where only the List Administrator is allowed to post), you can change your list to a "Moderated" list.

To do this:

1. From the web interface of your list, go to the List Admin menu.
2. Select the "List Info" button.
3. Scroll down the page to the section called "Posting Privileges and Moderation".
4. In the option called "Moderated", change the drop-down menu from "not moderated–messages never need approval" to "moderated–all messages must be approved".
5. In the option called "Approve #", change the drop-down menu from "0–no approvals needed" to "always needs approval".
6. In the option called "Release Days", change the drop-down menu from "The same day" to "Approval is always required".
7. Scroll down to the bottom of the page and click the "Save Mailing List" button to save your changes.

When this setting is put into effect, you will receive an e-mail whenever your list receives a message for posting. You may approve the new message by sending a command back to Lyris (provided in the e-mail you receive), or you may moderate your messages from the web interface for your forum.

To do this:

1. From the web interface of your list, go to the List Admin menu.
2. Click on the "Moderate" button. You will see a list of messages waiting to be approved.
3. To view the message, click on it to select it and click the "View Message" button.
4. Review the message and either click on the "Approve" button to send the message to your list, or "Reject" to remove the message from the delivery queue.

Note that if your list receives a large volume of messages, it will be easier to approve messages in bulk from the web interface. You can do this once or twice a day and release them to the list all at the same time. We recommend only releasing 30-40 messages at a time, especially if your list has over 200 members. ⓘ

Jodi Goldberg is an Information Technology Specialist in ITS eServices.

And the Winner Is...

Each year, ITS bestows the **George Sadowsky Prize** on an NYU student who exhibits exemplary innovation using the Internet for community service. The prize is named for Dr. George Sadowsky, a former Director in ITS, who recently retired after devoting a decade of work to technology leadership at NYU. Dr. Sadowsky continues to be very active in bringing the Internet to places across the planet where it can aid in the development of people and countries.

The recipient of the 2002 George Sadowsky Prize is Catherine P. Coleman, an undergraduate student entering her sophomore year at NYU. Catherine is a member of the University Scholars group, and is pursuing a degree in Secondary Education, with the goal of teaching Mathematics. As a freshman, Catherine showed incredible leadership in researching and organizing local involvement in a recurring national community service event called *The 30 Hour Famine* (**http://www.30hourfamine.org/**). Participants actively collect donations to help needy children and families in Africa, Latin American, Asia, and the United States, and then fast and take part in community service activities throughout the 30-hour period. Catherine organized this event twice in 2002, each time gathering approximately 20 classmates to participate. All of the planning, recruiting, and organizing for these events was implemented online through e-mail and listservs. ITS congratulates Catherine on her impressive work, and for her use of technology to benefit our community and the world.

NYU faculty, staff, and administrators are encouraged to nominate any NYU student(s) for the 2003 George Sadowsky Prize. Please send a short description of the student's achievements to Vincent Doogan, Director of ITS Academic Computing Services: *doogan@nyu.edu*. **The deadline for nominations is April 15th, 2003.**

Creating User-Friendly Online Tutorials

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Increasingly, academic libraries have begun using methods other than in-person teaching to deliver instruction to users. Among these methods are librarian-developed research guides and subject pages, web-based general guides, and tutorials. By providing these alternate methods of education, as well as the traditional in-person instruction, libraries are hoping to reach many more users.

In our effort to reach more users at Bobst Library, we have recently created several library tutorials. During this process, we also established a set of guidelines for their creation. As a result, the tutorials have become progressively less time-consuming to produce, and we have been able to spend time exploring other methods of online delivery, such as streaming media and Flash.

The first step in creating library tutorials is to determine what users want. To answer this question, we performed usability testing on the first significant tutorial we completed. The results proved the usefulness of usability testing, since they dispelled some of our preconceived notions, such as our belief that users want heavily interactive tutorials.

The literature on online learning widely touts interactivity as imperative in web-based learning of any sort, because it answers the needs of active learners by engaging them. Brandon Hall, author of the *Web-Based Training Cookbook*, says "all Web-based training should be interactive since interactivity makes the difference between a program that simply presents information, and one that actually trains the user."

While this is good practice, our usability results indicated that our students did not want linear interactive tutorials. They were much more interested in finding the information they needed without taking more time than was necessary. Students wanted the information in the tutorials to be delivered more as FAQ's than as in-depth instruction.

In a review of studies done on the information gathering/research process, Joy H. McGreggor concluded that students are "focused on a final product rather than a process," and

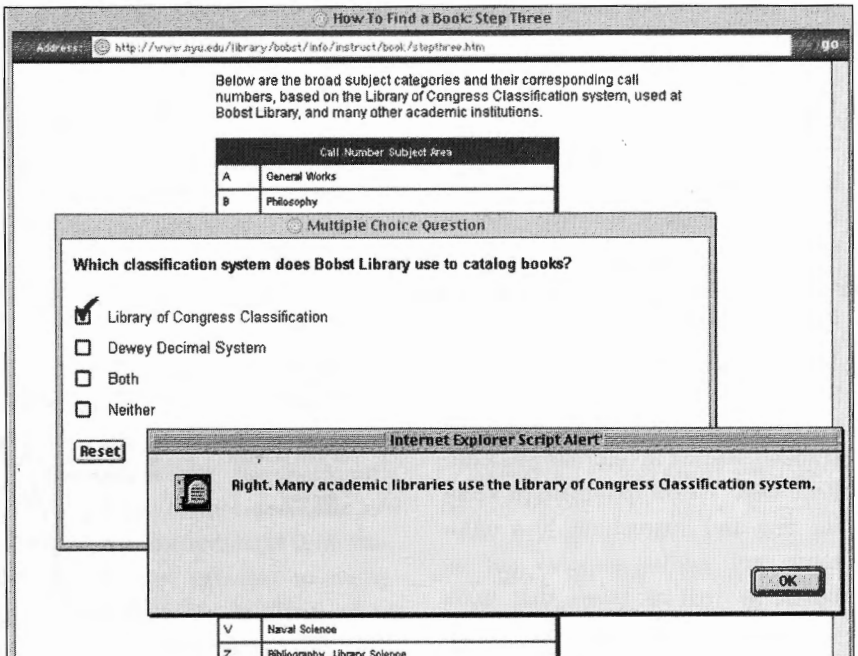
How To Find a Book: Step Three
Address: http://www.nyu.edu/library/bobst/info/instruct/book/stepthree.htm
go
Below are the broad subject categories and their corresponding call numbers, based on the Library of Congress Classification system, used at Bobst Library, and many other academic institutions.
Call Number Subject Area
A General Works
B Philosophy
Multiple Choice Question
Which classification system does Bobst Library use to catalog books?
Library of Congress Classification
Dewey Decimal System
Both
Neither
Reset
Internet Explorer Script Alert
Right. Many academic libraries use the Library of Congress Classification system.
OK
V Naval Science
Z Bibliography, Library Science
Next Step: Get the book off the shelf Quiz Question!
Library Home | Library Catalog | Feedback | Ask A Librarian
© NYU Libraries | Last Update: 06/02
Link: javascript:newWindow()

Figure 1. An example of an interactive quiz from the "How to Find a Book Tutorial."

that students "...see research as a task or product-oriented activity rather than an opportunity for learning." Our solution was presenting interactivity as an option but not as a requirement. We created interactive quiz questions, for example, which users can choose to click on if they wish (see Figure 1).

Incorporating information literacy in the tutorials was another challenge. Our tendency was to conceptualize and create library tutorials from an information literacy standpoint. As Susan Sharpless-Smith says in *Web-Based Instruction: a Guide for Libraries*, "Increasingly, library instruction goals are expanding to encompass a more comprehensive concept—information literacy—in which library users gain 'the ability to locate, evaluate, and use information to become independent life-long learners.' Good library instruction, we are taught, teaches concepts, not merely mechanics."

We wanted to make sure to incorporate "good library instruction" but were aware that our users were more interested in the mechanics of finding information. Jerilyn Veldof and Karen Beavers, in "Going Mental: Tackling Mental Models for the Online Library Tutorial," say that "the racing model is a sufficient mental model to get what they want done—two or three articles, a book, a website for a short paper or speech."

Combining the information literacy concepts we wanted to impart to our users with the minimal approach students wanted in tutorials was a difficult task. We compromised by keeping text and instructions to a minimum, and adding glossary pop-up boxes, as well as boxes that users could click on should they want extra information (see Figure 2). The goals of the tutorials, listed on the "How to Use Bobst" web page (**http://www.nyu.edu/library/bobst/howto.htm**), are not concept oriented, but are goal-focused. For example, in the "How to Find An Article" tutorial, we introduce the tutorial by saying, "Need to find articles published in newspapers, magazines, and journals? Follow these steps."

Another way to ensure that the tutorial content was not too lengthy was to employ "writing for the Web" concepts. These concepts are substantially different than their print counterparts. They promote short one-concept paragraphs, bulleted points, no unnecessary language, and content chunking. When we have non-imperative information to communicate in our tutorials, we tend to use pop-up boxes that users can click on if they want further explanation, but can easily bypass if they don't.

We also made the tutorials modular. Not only is this a good "writing for the Web" concept, but it is also good pedagogy according to Nancy Dewald, who says in "Web-Based Library Instruction: What is Good Pedagogy?" that "modules that provide information in small blocks, breaking it up into parts and subparts with summaries and reviews, help learners absorb material gradually and organize the material in their own mind."

There is an overall linear approach to our tutorials, but users are in no way locked in. Left side navigation within each module and its sub-pages is always visible to the user, should they want to move to another section of the tutorial (see Figure 3).

When implementing online tutorials, it is important to create a distinctive design that differentiates the tutorials from an online search. As Veldof and Beavers say, "If, for example, students do not understand that they are in a tutorial and not a portal to library resources, their confusion and frustration will prevent them from meeting the instructional objectives."

The tutorials created at Bobst Library employ a consistent graphical interface, color scheme, and navigation that is different from the design of the rest of the Bobst Library website. This helps indicate to students that they are in "research" rather than "search" mode.

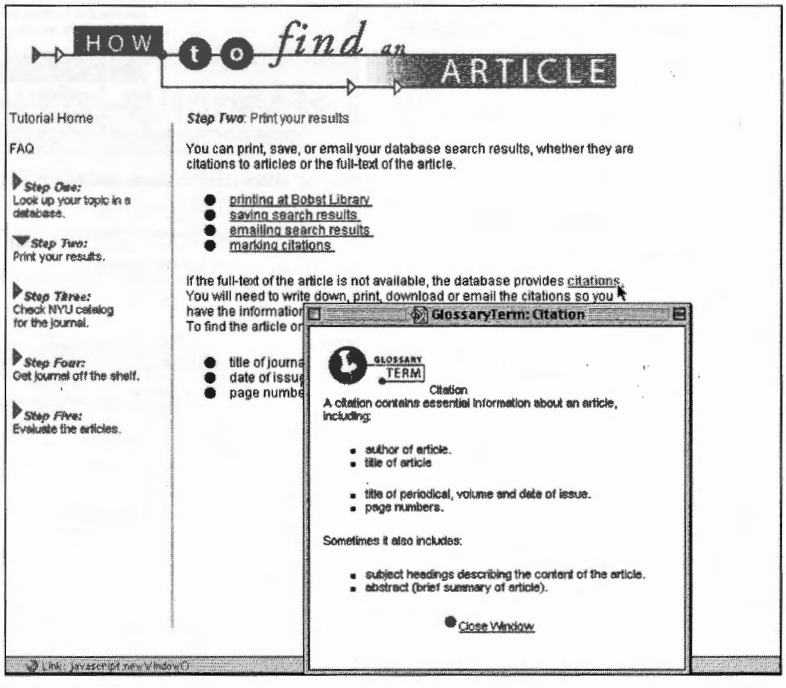
HOW to find an ARTICLE
Tutorial Home
FAQ
Step One: Look up your topic in a database.
Step Two: Print your results.
Step Three: Check NYU catalog for the journal.
Step Four: Get journal off the shelf.
Step Five: Evaluate the articles.
Step Two: Print your results
You can print, save, or email your database search results, whether they are citations to articles or the full-text of the article.
printing at Bobst Library
saving search results
emailing search results
marking citations
If the full-text of the article is not available, the database provides citations.
You will need to write down, print, download or email the citations so you
GlossaryTerm: Citation
GLOSSARY TERM
Citation
A citation contains essential information about an article, including:
author of article.
title of article
title of periodical, volume and date of issue.
page numbers.
Sometimes it also includes:
subject headings describing the content of the article.
abstract (brief summary of article).
Close Window

Figure 2. The "How to Find an Article" tutorial offers additional information in pop-up boxes for users who wish to see it.

BOBST LIBRARY
New York University
world.wide.web
tutorial
www tutorial
search tools
this section
Types of Web Sites
Search Tools
search engines
subject directories
meta search engines
reference tools
Search Strategies
Evaluating Information
Citing Sources
Tutorial Home
Search Tools Search Engines
Search engines are used to search for information on the Internet. There are many search engines on the Web, none of which catalog all of the resources available online.
Search Tools Subject Directories
Subject directories are lists of Web sites which are arranged by topic or subject area. They are good for general searching on a topic.
Search Tools Meta Search Engines
Meta search engines search many search engines at a time. Using meta search engines can save you time, and provide you with many results.
Search Tools Reference Tools
Reference tools are sites which allow you to pose a question and receive an answer. Answers are generated either by real people, or by technology.
[next page]
Last update: June 2001
© Bobst library at NYU
e-mail:ol62@nyu.edu
Ask A Librarian / Other Tutorials / Bobst Library Home page / Feedback Form

Figure 3. As shown in this "World Wide Web Tutorial", left-side navigation allows users to easily move around to different sections of the tutorial.

There is no question that online tutorials take a lot of time. Graphics, design, navigation, content, implementation, and testing all prove time-consuming. When a tutorial has finally been completed, the next, and often overlooked, step is advertising the product. On many library websites, tutorials tend not to be placed in a context sensitive way, but are located under the instruction umbrella. This can be a hindrance in promoting the tutorials because it indicates that the tutorials are not imperative.

As we redesign the entire Bobst Library website this year, we are focusing on placing the tutorials where they will be needed. For example, if a user is on the catalog page, they can click directly to the "How to Find a Book Tutorial" page, rather than having to go back to the library home page to get to the instructional section of the site.

Aside from placing these tutorials in a more context sensitive framework, other ways of advertising these tutorials include: submitting the URLs to peer reviewed sites for ratings, adding metadata so search engines will index them, advertising them in traditional library instructional classes as follow-up instruction, and placing them in the research section of Blackboard.

This brings us to another often overlooked step—that of making sure that the coding of the site is user-friendly for the disabled. Often, sites are coded simply to look good, without concern about the backend. Section 508 guidelines are a set of federal standards that make it imperative for federal agencies to make their sites accessible to those with disabilities. There are many sites that give guidelines on how to do this, such as the W3C (**http://www.w3.org**). Designing an accessible site is important since we need to serve all our patrons equally.

These are a few of the issues we have explored in designing, implementing, and creating online tutorials at NYU's Bobst Library. Using the guidelines listed above to create tutorials helps remind us that we need to continue to strive to create tutorials which students will find helpful and informative. While incorporating information literacy into the tutorials is important, it is also important to focus on making the tutorials goal-based, so that users will get tangible results from the process. ⓘ

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Scientific Computing & Visualization at NYU

Frances Bauer and Alexandar Tzanov
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The Science and Visualization Group within ITS' Academic Computing Services offers a number of special resources to faculty and students in the sciences, including hardware and software resources, staff who provide expert advice and consultation in their use, and access to supercomputing systems at the National Science Foundation centers.

The goal of the Group is to provide the NYU computing community with the most technologically advanced computer platforms with respect to architecture, speed, memory, and storage.

The Group's three principal resources—SCIRES, SCIVIS, and SCIHPC—are currently composed of Silicon Graphics (SGI) computers, all of which share a 68-GB scratch disk mounted on a separate server. These facilities have recently undergone considerable modification and improvement.

The **SCIRES** (Scientific Research) system was originally an SGI Origin-200 four-processor CPU dedicated to light-weight computing, e-mail, and web browsing. This has been replaced by a more powerful two-processor Origin200 (which we've dubbed "feynman"). The four-processor Origin200 ("neumann") has been upgraded and is a useful compute engine.

The **SCIVIS** (Scientific Visualization) cluster, which offers graphics and videographics resources, high-performance graphics workstations, and visualization, along with staff to assist in their use, has been enlarged and upgraded. The file server is the 360-MHz four-R12000-processor Origin200 ("riemann"). It has 1.5 GB of memory and 137 GB of disk space. The speed of computation has been increased by a factor of 2.5.

The laboratory housing the workstations associated with "riemann" is now located at 14 Washington Place. The equipment in the lab consists of: two 360-MHz two-processor Octanes; two 175-MHz two-processor Octanes; two 225-MHz one-processor Octanes; three SGI O2's; and one 180-MHz Indigo with Impact graphics.

SCIHPC (Scientific High Performance Computing) provides research and instruction in parallel computing environments, along with shared-memory high-performance systems. It includes the eight-processor Origin-2000 ("friedman"), which has 5.6 GB of main memory. Each processor comes with a 4-MB L2 cache. Parallel computing is made available through the use of MPI and OpenMP.

A new 600-MHz Origin300 is being installed, which is configured as a single 16 CPU computer with NumaLink. The machine has 8 GB of memory and 350 GB of disk space. The construction is modular so that it can be extended to 32 processors just by adding main blocks; with clustering it can be extended to 128 processors. The operating system is latest-generation IRIX with a full 64-bit UNIX implementation. This operating system has the following features that are useful for large research jobs: binary compatibility with Origin-2000/3000; weightless process and threads; and checkpoint and restart capabilities.

With this new computing power and storage capability, we can now extend the fields of usage, for example to bioinformatics and medical informatics research. The Origin300 can utilize the HTC (high-throughput computing) environments offered by SGI. The HTC environments are specially designed and developed wrappers that permit the running of standard bioinformatics applications benefiting from the NumaFlex server architecture, such as BLAST, Clustal-W, FASTA, and HMMER. According to some analyses, the use of HTC with the Origin300 contributes to much higher overall system usage and efficiencies than can be achieved with Linux cluster solutions. Mathematical and Chemical packages are available, including Matlab, Mathematica, insightII, and Gaussian. All the Biology and Chemistry packages used by the bioinformatics community such as BLAST, HMMER, SYBYL, etc., can be installed upon request.

For more information, call the Science and Visualization Group at 1 (212) 998-3058 or 1 (212) 998-3159, or send e-mail to: *comment@scires.nyu.edu* ⓘ

Frances Bauer and Alexandar Tzanov are Scientific Visualization Specialists in the Science and Visualization Group of ITS Academic Computing Services.

NYU Blackboard Survey Results

Vincent Doogan, with Joan Pirundini
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In the spring of 2000, NYU's Information Technology Services introduced Blackboard—a commercially-available course development system currently in use at many American colleges and universities.

The principal features of this versatile course delivery system include web browser compatibility, a course template, use of text and multimedia content, search tools, student home pages, threaded discussions, chat rooms, e-mail, file sharing, whiteboards, student grading, test authoring, assessment tools, access control, a class roster, and a built-in help manual.

Blackboard is a hybrid product. It contains a score of features that are also found in the software market as independent, robust, and fully developed products. Helping faculty members determine which software product best fits their needs is one of the roles of the Instructional Technologists at the ITS Faculty Technology Center (FTC).

For example, a faculty member who is only seeking a discrete software functionality for supporting after-class online discussion groups and e-mail lists is likely to be best served by NYU Forums (see "Your Guide to NYU Forums" on page 20 of this issue). Another faculty member's needs might be met by a simply constructed website for posting office hours, a class reading list, and a syllabus.

With the addition of Blackboard to the software "menu", it has been continually important for the FTC staff to understand what features of the software have been most useful to faculty members who have already implemented Blackboard websites—thus enabling the FTC staff to better help other faculty members decide whether Blackboard is the best tool for their needs.

To gather this information, ITS Academic Computing Services conducted a survey at the conclusion of the spring 2002 semester of the faculty members who had just completed their use of Blackboard; 140 faculty members responded. This survey was similar to a survey of NYU faculty usage of Blackboard conducted in fall 2000 (see an article on this topic in the spring 2001 issue of *Connect).*

Survey Results

- Overall, 95% of faculty respondents reported that their satisfaction with NYU Blackboard ranged from "very good" to "satisfactory", in contrast to only 70% of the faculty surveyed in 2000.
- 98% rated the system reliability and performance of NYU Blackboard as "very reliable" to "reliable". By contrast, in our previous survey, one faculty member complained that "Blackboard was extremely unreliable," (*Connect*, Spring 2001). This improvement is a result of several upgrades in system hardware and software undertaken by ITS in January 2002 (see *Connect*, Spring 2002).
- 86% estimated students' overall satisfaction with Blackboard as "satisfactory" to "very good", up from 64% in 2000.
- 94% responded that they plan to use Blackboard again.
- 29% had gone to the FTC for help and 46% had sent e-mail to *blackboard.problems@nyu.edu.*

Inputs & Outcomes

- On the question of student participation, 58% of faculty said it met their expectations, 9% said student participation was higher than their original expectations, and 26% said student participation was lower than anticipated (this last result was down from 47% in 2000).
- 42% of faculty reported that their students were better prepared for class, and 31% thought that students were more engaged in class.
- 69% of faculty needed 1 to 2 hours per week to maintain the site, 18% needed 3 to 4 hours, 3% needed 5 or more hours, and 9% made no changes to their site.
- 36% needed 1 to 2 hours to initially set up the site, 31% needed 3 to 4 hours, and 24% needed 5 or more hours. These results were not a significant change from 2000.

Use of Content

- 63% of faculty posted 5 or more announcements.
- 90% of faculty posted a syllabus.

- 87% created and posted course documents.
- Of the faculty who posted content, 71% posted materials in word processing format, 61% typed content into Blackboard, 59% linked to other websites, 28% posted materials in PDF format, 26% used HTML for some materials, and 22% posted images (JPEG or GIF).
- Only 2% posted animation, video, or audio materials.

Use of Classroom Tools

- 66% rated both the announcement editor and e-mail as among the most useful features, followed by 54% for content uploading, 44% for discussion group, 36% for content editor, 30% for external link editor, and 25% for grade book.
- The virtual classroom (49%), tracking (49%), and grade book (45%) were ranked as the among least useful features.
- 53% used the discussion group feature; 22% of these faculty acted as moderator.

Individual Comments

Need for Guidelines

- "NYU could offer venues for discussion about the pedagogy of online learning."
- "It would be helpful to be able to access some guidelines for synchronous discussion. There are rules that enable the discussion and behaviors that derail it. Ultimately, you can discover them, but we could save time and effort with some guidelines."
- "I think it is a great tool but I would like more strategies for getting my students to utilize all of its capabilities."

Desired Improvements

- "Would like a public and private area of Blackboard."
- "More NYU workshops at varying times."
- "Option to use letter grades and get them translated by the program."
- "Have control over the order of announcements, rather than have them appear as submitted."
- "Better drop box management (including a report for how many new submissions there are), virus scanning."
- "Multilingual support."
- "Better to have non-NYU e-mail addresses."
- "I would like very much to have an easy way to give other people access to the course."
- "Blackboard should allow you to have a listing for a grade that has no weight."
- "Would like an archive of e-mail messages sent through Blackboard."
- "Directions should be clearer."
- "Interested in having an online tutorial."
- "Creating groups is laborious and inefficient—can this be made easier or faster?"
- "Clunky layout of discussion board in that a person can only move through threads and not the whole list of messages."

About Usefulness

- "What I found most useful was being able to update the course syllabus as I went along so we could view the syllabus as a work in progress and make adjustments as necessary."
- "Already-formatted group e-mail list made communicating with the class a snap."
- "My graduate students, most of whom are fully employed outside of NYU, were very enthusiastic about being able to remain in contact between weekly class meetings, and all participated in the discussion groups and resulting threads."
- "It is helpful to students who miss class, allows for interaction with all students between classes, permits a speedy response to questions and problems, and facilitates individual participation and preparation."
- "I mostly used the site this semester to give students access to scanned materials I wanted them to read—sort of like an electronic reserve desk."
- "We used the discussion board as a forum for students to post questions they'd like to discuss in recitation the following day; this was helpful both in encouraging participation and in developing lesson plans."
- "It helped me a lot, especially in posting the solutions to the HW's, quizzes, and exams in the Blackboard site, so that I didn't have to copy them for everyone, and the students could access the solutions whenever they wanted."
- "The discussion board feature is particularly good because it allows me to lead students in structured discussions of texts that we might not get to in class. It also levels the playing field—students too shy to talk in class get the opportunity to contribute to discussions too."
- "The class that used Blackboard had students working in lab groups. This was a huge help to see who was participating in developing story ideas and research. It also allowed me to help them and direct their thinking. I'd respond to a thread and could short cut problems. I will also use the lab to grade the students—analyzing who participated and in what way. Most of the students found it helped them communicate with other lab members."
- "Discussion feature is excellent. Students are required to host a discussion weekly and are graded

in it. Discussion is structured and relates to course content."

- "The digital drop box has almost eliminated paper use in my course. Because I am only on campus one day per week, Blackboard lets me maintain contact with my students and keep them involved at a level that was impossible before. If I forget to tell them something or decide to change an assignment after class, I can let them know with a group e-mail and/or the announcements page. I should be getting paid by Blackboard because I am a walking/talking relentless promoter of their product."

Overall, the past 18 months have provided us with many important lessons and experiences in the use of web-based learning for classroom-based courses. It is clear that both faculty and students find value and promise in their experiences with learning management systems such as NYU Blackboard. Most people involved appear to be optimistic about these early trials with technologies that are rapidly evolving to meet the expanding needs and expectations of the higher education community.

The initial group of 30 NYU faculty members who were the early adopters of NYU Blackboard in spring 2000 grew to nearly 400 faculty members by spring 2002. As we begin the fall 2002 semester, approximately 900 class sections—with over 15,000 enrolled students from nearly all 14 schools and colleges of NYU—are using NYU Blackboard.

During the next twelve months, we plan to leverage our collaborations and partnerships with eLearning software vendors, the NYU Libraries, and the NYU Center for Teaching Excellence to expand the available resources for supporting Internet-based technologies for teaching and learning at New York University.

To learn more about Blackboard, please visit **http://www.nyu.edu/its/ftc/**, or contact the Faculty Technology Center at 1-212-998-3044. ⓘ

Vincent Doogan is the Director of ITS Academic Computing Services; Joan Pirundini is an intern at the ITS Faculty Technology Center, and a graduate student at The Steinhardt School of Education.

GET READY NYU: PHONE CHANGES YOU NEED TO KNOW!

You should now start dialing 9 + 1 + area code + 7 digits for all local calls—even within the same area code.

Now is the time to get into the habit of dialing 9 + 1, plus the three-digit area code and the seven-digit number to make all local calls within 212, 718, 917, 646 and 347—even if you're dialing to another number in the same area code. For example, if you're calling from an NYU extension to another number in the 212 area code, dial 9 + 1, plus the 212 area code, followed by the seven-digit number.

Beginning February 1, 2003, local calls will only be completed if you dial 9 + 1, plus the area code, plus the seven-digit number. To help make this dialing change easier for you, between now and February 1, local calls will be completed if you dial 9 plus the seven-digit number, or dial 9 + 1, plus the area code, plus the seven-digit number.

Why the change? To accommodate the growing need for new phone, fax and wireless numbers, new area code "overlays" have been added in New York City. An "overlay" is where two or more area codes coexist to serve the same geographic area. The Federal Communications Commission requires that area codes must be dialed for all calls where an area code "overlay" exists, such as New York City, which has area codes 212, 718, 917, 646 and 347.

PLEASE NOTE: ONLY THE WAY YOU DIAL A LOCAL CALL IS CHANGING.
A local call is still a local call; a long distance call is still a long distance call, and dialing 911 and 711 has not changed.

Here's how to make a call from NYC, to any NYC area code (212, 718, 917, 646, 347):
Dial 9 + 1 + the area code + the seven-digit telephone number.

Remember:

- Start dialing the 9 + 1, plus the area code, plus the seven-digit phone number for all your calls, local and long distance.
- Include our area code (212) when sharing your number with family, friends, colleagues, and business associates.
- Update your business stationery, advertising, as well as your personal phone book to include area codes.

Source: Verizon

A Quick Reference Guide to Computer Facilities for NYU Faculty and Students

Robyn Berland
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	Facilities for Faculty				ITS Specialized Computer Facilities			
Name	**ITS Faculty Technology Center (FTC)**	**ITS FTC Drop-in Area**	**Studio for Digital Projects & Research**	**ITS lab-based classrooms**	**Digital Video Editing Lab**	**Digital Video Studio & Advanced Imaging Studio**	**Science & Visualization Lab**	**Statistics & Mapping**
Address	35 West 4th St. 2nd Floor		East Wing, 2nd Floor, Bobst Library	40 W 4th St. 35 W 4th St. 75 Third Ave.	75 Third Avenue, Level C3	35 West 4th St. 2nd Floor	14 Washington Place, Downstairs	75 Third Avenue, Level C3
Fall and Spring Semester Hours	**M-F** 9 am-6 pm Call for an appointment.	**Open Every Day.** **M-F** 8:30 am-11:30 pm **S** 8:30 am-5:30 pm **Su** noon-11:30 pm	**M-F** 1pm-5 pm	Availability is based on schedule of classes and hours of operation of each location.	**24 X 7** Availability based on schedule of classes.	**M-F** 8:30 am-11:30 pm **S** 8:30 am-5:30 pm **Su** noon-11:30 pm	**M-F** 8:30 am-11:30 pm **S** 8:30 am-5:30 pm	**M-F** 10 am-10 pm **S** 9 am-8 pm **Su** 8 am-8 pm
Access Policy	NYU Faculty		NYU Faculty and Scholars	Faculty and Administrators may reserve classroom time for NYU courses.	Faculty, Staff and Students who are working on video projects may use these workstations by reserving time in the Reservation Book at the Front Desk.	Faculty or Students with an ATG Course or Individual Account. For information about obtaining an account go to: www.nyu.edu/its/accounts.	Faculty or Students with a Science & Visualization Account. For information about obtaining a Science & Visualization Account, go to www.nyu.edu/its/accounts.	Server based resources may require a Stats Account. For information about obtaining an account, go to www.nyu.edu/its/accounts.
Computer Platform	Mac OS and Windows				Mac OS		SGI/Unix	Windows
General Resources	Instructional Technologists will advise in the uses of Digital Multimedia, Telecommunications and Information Technologies for instruction, research, and in the production of educational and scholarly materials. Leading-edge equipment and software is available.	Faculty may work independently on a drop-in basis. A broad range of software and equipment is available in this networked environment. Staff assistance is available.	The Studio will advise upon and assist with the creation, use, and analysis of primary texts, reference works, finding aids, analytical tools, images, video, audio, etc. as well as state of the art hardware and software.	Instructor's station with projection (an interactive Whiteboard is available at some locations). Classroom size varies by location. Internet Access, Web Browsing, MS Office Suite and Printing.	Fifteen (15) Dual GHz G4 Macintosh Computers each with a 22" Cinema Display, SuperDrive, NTSC Monitor, DV Deck (mini-DV and DVCAM), MiniMixer, Apple's FinalCutPro and iMovie, Adobe Premier, AfterEffects, SoundEdit, Peak, iDVD and more.	Six (6) video editing systems for short quality video pieces using the mini-DV standard and Apple's FinalCutPro or Adobe Premier editing software. Three (3) ProTools audio systems with Roland MIDI keyboards. High Quality scanning of positive and negative film and reflective media, film recording in 35 mm, 120, and 4x5 color formats, printing on medium format archival & non-archival printers.	Graphics and videographics resources, high-performance 3-D workstations, and visualization, along with expert advice and consultation in the use of these resources.	Statistics software for Advanced Data Analysis, Mapping, and Large-format Printing, Statistical Consultation and Tutorials.
Additional Resources	Staff guidance in web-authoring and learning management tools, digital audio and video, new interactive learning technologies using Internet2.	Scanners, CD-ROM and DVD recorders/players, black and color printers.	Digital scholarly content development projects, media intensive Internet2 experimentation, and collaboration with NYU's Digital Library.	The software suite and peripheral devices vary by location. As a rule of thumb, video and image and audio editing software is running in a Mac OS environment while programming, statistics, and multi-lingual applications are running in a Windows environment.	Two (2) Dubbing Stations allowing transfers between VHS, Hi-8, Digital 8, Analog 8 and mini-DV and DVCAM) Instructor's Station with VCR, DV Deck and Dual GHz G4 Macintosh controlling a Rear Projection Interactive Whiteboard.	Four (4) video editing booths for advanced students and faculty working on larger video post-production projects primarily used to edit analog Betacam SP, source materials in addition to mini-DV, DVCAM and DVC-Pro digital formats. Large format printing, archival and non-archival output.	NSF supercomputers: access to supercomputing systems at the National Science Foundation centers. Research and instruction in parallel computing environments, along with shared-memory high-performance systems.	ICPSR National Data Archive, NYCE Map Archive, High-end computational computing.
Supported Media	Floppy, Zip, CD-ROM, DVD	Zip and Floppy disk, DVD, CD-ROM	Zip and Floppy disk, DVD, CD-ROM	All: Zip & CD-ROM. Media vary by location.	100/250 Zip, DVD-R/CD-RW, Firewire devices, mini-DV and DVCAM	mini-DV, DVCAM, DVD, CD, DAT. Video dubbing rack formats: DVCAM, Betacam SP, Hi-8, S-VHS, VHS, mini-DV.	Floppy, 100/250 Zip disk	Floppy, 100/250 Zip disk
Contact Information	998-3044		digital.studio@nyu.edu	998-3396 998-3406	998-3500	998-3421	998-3508	998-3398
Web Page	**www.nyu.edu/its/ftc/**		**www.nyu.edu/studio**	**www.nyu.edu/its/ftc**	**www.nyu.edu/its/labs**	**www.nyu.edu/its/atg**	**www.nyu.edu/its/faculty/specialties/sci.nyu**	**www.nyu.edu/its/socsci**

This Quick Reference Guide is intended to serve as a visual display of the various ITS (and ITS-affiliated) academic technology-based facilities, and to give an overview of the resources that each location makes available to the NYU community.

For further details about these facilities, please use the contact information listed in the guide below, or get in touch with the ITS Client Services Center by phone at 1 (212) 998-3333 or by e-mail at *its.clientservices@nyu.edu*.

It is hoped that this guide will be used as a topographical map, and not as a replacement for the many informative (and regularly updated) ITS publications available on the web and in print.

In addition to the web pages listed in the guide below, further information about ITS resources is available at:

- **http://www.nyu.edu/its/**
  The main ITS website, which is being redesigned for late fall 2002.
- **http://www.nyu.edu/its/faculty/guide/**
  The web version of the *NYU Libraries & ITS Faculty Information Guide*.
- **http://www.nyu.edu/its/students/guide/**
  The web version of the *NYU Libraries & ITS Student Information Guide*.

For more information about these and other ITS publications (including how to obtain print copies), please see the article on page 34 of this issue. ⓘ

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ITS Student Computer Labs				ITS Affiliated Student Labs		ITS Campus-wide Kiosks
ITS Multimedia Lab	**ITS Third Avenue Student Computing Lab**	**ITS Tisch Hall Computing Lab**	**ITS Washington Place Student Computing Lab**	**College of Arts and Sciences Learning Center**	**The Bronfman Center for Jewish Studies**	**NYUHome Stations**
35 West 4th St. Second Floor	75 Third Avenue, Level C3	40 West 4th St., Room LC8	14 Washington Place Downstairs	5-11 University Place Weinstein Hall, 1st floor	7 East 10th Street	Located throughout the campus. The web page contains a list of locations.
M-F 8:30 am-11:30 pm **S** 8:30 am-5:30 pm **Su** noon-11:30 pm	**24 X 7** Twenty-four hours a day; seven days a week.	**M-T** 8:30 am-1:30 am **W-F** 8:30 am-11:30 pm **S** 8:30 am-5:30 pm **Su** noon-1:30 am	**M-F** 8:30 am-11:30 pm **S** 8:30 am-5:30 pm	**M-Th** 10 am-10 pm **F** 10 am-5 pm	**M-F** 8 am-midnight **S** 8:30 am-midnight **Su** 10 am-10 pm	Based on each location's hours of operation.
All NYU Students in degree and diploma programs and individual holders of Course or Individual Lab Access Accounts. For information about obtaining a Lab Access Account go to: www.nyu.edu/its/accounts.				All NYU Students in degree and diploma programs.		All individuals with a current NYU NetID.
Mac OS	Mac OS and Windows	Windows		Mac OS		Mac OS
Internet Access, Web browser, MS Office Suite, Laser Printing, Lab Staff assist students in the basics of using an ITS student lab and other ITS resources i.e., Blackboard, NYUHome, etc.				Internet Access, MS Office Suite, Printing		NYU Portal to NYU/ITS web-based services and tools. Using Netscape or Internet Explorer, you have access to e-mail, Albert, Blackboard, web forums, classes, research tools and more.
Flatbed Scanners equipped with film adapters (positive and negative). Audio/Video/Image editing and Web and Print Publishing.	**Mac OS:** Flatbed Scanners equipped with film adapters (positive and negative), Audio/Video/Image editing and Web and Print publishing. **Windows:** Statistics, Language Learning, Programming, Nutrition, Web Publishing.	Language Learning, Nutrition, Statistics, Programming, CAD	Programming, Statistics, Language Learning, Nutrition	Web Publishing Software	Hebrew Web Browser and simpletext editor	None
100/250 Zip, CD-RW, Firewire devices	3 1/2 Floppy, 100/250 Zip	3 1/2 Floppy, 100/250 Zip	3 1/2 Floppy, 100/250 Zip	3 1/2 Floppy to check out	3 1/2 Floppy, CD-R	None
998-3421	998-3500	998-3409	998-3457	998-8085	998-4114	998-3333
www.nyu.edu/its/students/labs				**www.nyu.edu/cas/clc**	**www.nyu.edu/its/humanities/facilities**	**home.nyu.edu/help/connecting/stations/**

The ITS Publications Group

Candice Gruver, with Jill Hochberg and Kate Monahan
its.pubs@nyu.edu

Within ITS Client Services is a small group of technical writers and editors who strive to produce clear and pertinent information about the range of ITS services available to the NYU community; to inform NYU students, faculty and staff as to how they can best access those services; and to provide guides and other published information to assist in the use of IT and ITS resources both on and off campus.

Over the course of each year, the ITS Publications Group collaborates with staff members in Client Services and across ITS, with the NYU Libraries, and with other NYU schools and departments, to produce a variety of print and electronic publications for faculty, staff, administrators, and students. Our goal in each and every project is to give you the information that will help you make the most of the IT resources available at NYU.

The publications described in this article are distributed in many ways: by campus mailings; via the Internet; at the ITS computer labs, the ITS Client Services Center, Bobst Library, and the NYU Information Center; at orientations and other events; at student dormitories; and by request. Our publications are updated regularly, so please check the publication date on any copies that you may have to ensure that they are the current version.

If you would like to request copies of any of these publications for yourself, your department, or your students, please send e-mail to *its.pubs@nyu.edu*, or call the Client Services Center at 1 (212) 998-3333. (Please note the special instructions for the NYU Directory, though!) An e-request service is being developed. Look for it on the redesigned ITS website, coming later this fall. We encourage you to share your feedback on our current publications and your ideas for future offerings.

The NYU-NET CD

Produced each year, the free NYU-NET CD provides NYU community members with licensed software and shareware to download, and documentation to help connect to NYU-NET. The 2002/2003 NYU-NET CD includes Norton AntiVirus, Internet browsers, RealPlayer, Adobe Acrobat Reader, Eudora, SSH, StuffIt Expander, WinZip, WS_FTP, Fetch, and more. Detailed instructions for configuring your modem connection, using Proxy, and FAQs are also provided.

The ITS Website (& NYUHome)

Redesigned for late in the Fall 2002 semester, the ITS website (**http://www.nyu.edu/its/**) offers detailed information, step-by-step instructions, and online access to many ITS services, as well as electronic versions of many of our publications. A wide range of online help documentation has also been developed by ITS *e*Services (at times with the assistance of the ITS Publications Group) and is available through NYUHome at **http://home.nyu.edu/help/**.

The NYU Directory

The *NYU Directory* is a collaborative effort among ITS Client Services, *e*Services and Telecommunications Services. This telephone directory of NYU faculty, staff, and administrators is distributed each academic year. To request copies of the directory for new employees, contact Central Supply, 29 Washington Place, Lower Level.

Connect and *Connect Direct*

Published biannually, *Connect: Information Technology at NYU* showcases the many uses of information technology at NYU. An online version of this magazine and an archive of past issues are available at: **http://www.nyu.edu/its/connect/**. Ideas and contributions for future issues are invited for consideration by the editor; send e-mail to *its.connect@nyu.edu*.

NYU community members are also encouraged to subscribe to *Connect Direct*, an e-mail listserv that provides IT-related news, announcements and alerts. Visit **http://www.nyu.edu/its/connect/connectinfo.html** for more information.

Flyers

Our convenient flyers provide a quick overview of important information, including descriptions of services, and location and contact information. Our current titles are:

- *Computer Services & Internet Resources for NYU Students*
- *E-mail & Internet with Your NYUHome Service*
- *ITS Computer Support Services, an Offering of ITS Client Services*
- *NYUHome: Welcome Home*
- *Using Your Laptop with Data Projectors at NYU*

Brochures

More in-depth than our flyers, these brochures provide detailed information and/or instructions about the topics they address. Our current titles are:

- *Computer Services and Internet Resources for NYU Faculty and Students*
- *A Quick Start Guide to NYU ResNet*
- *Securing Desktop Machines in Your Office and at Home*
- *Security @ NYU: What Can We Do For You?*
- *Protecting Your Computer System from Viruses, Worms, and Trojan Horses*
- *pcAnywhere: Setting it up for Secure Connections*
- *Personal Firewalls*
- *Guidelines for Operating Multi-User Systems on NYU-NET*

Guides

Produced in collaboration with the NYU Libraries, these comprehensive guides—one for students, one for faculty, staff, and administrators—contain the essential information you need in order to make the most of the NYU Libraries and ITS.

- *NYU Libraries & ITS Student Guide*
- *NYU Libraries & ITS Faculty Information Guide*

Candice Gruver, Jill Hochberg, and Kate Monahan are members of the Publications Group in ITS Client Services.

How to Import Data Files into SAS

There are a few ways to import data into a SAS data set. Imported data files can include Database Management Systems (DBMS) tables, PC files, spreadsheets and delimited external files. The two basic ways to import into a SAS data set are explained in the steps below. The first way is through the SAS Import Wizard and the other is by converting your document in DBMS/COPY for Windows v.7.0.1.

SAS Import Wizard

The SAS Import Wizard can be accessed from the File tab of a running session of SAS. When importing data, the Import Wizard only supports certain types of data. For example, it can convert most Excel (*.xls) files. However, the SAS Import Wizard can not convert SPSS (*.sav) files.

DBMS/COPY

DBMS/COPY can act in the same way as the SAS Import Wizard, but it permits file conversion between a greater variety of programs and large data sets. In converting a file, DBMS/COPY creates a copy of the original and converts the copy so that the original unconverted file remains saved. DBMS/COPY also provides greater editing capability and filtering, and can also be useful when SAS Import Wizard fails to import text variables.

Excerpted and adapted from an article by Marc Grayson, May 2002. A full copy of this article can be found on the ITS Social Science, Statistics and Mapping Group's website: **http://www.nyu.edu/its/socsci/Docs/Import2SAS.pdf**. See also the two articles from ITS Social Science, Statistics and Mapping Group members in this issue: *A Review of LIMDEP 8.0* by William Greene and Robert Yaffee on p. 36, and *Inputting Questionnaires into Data Sets* by Frank LoPresti and Sean Fischer on p. 40.

Marc Grayson is currently an undergraduate student in the College of Arts and Sciences and is also an intern with the ITS Social Science, Statistics and Mapping Group at NYU.

A Review of LIMDEP 8.0

A Powerful and Versatile Package for Econometric Analysis

William Greene and Robert Yaffee
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LIMDEP 8.0 is a new version of a powerful statistical package used to analyze linear and nonlinear regression models for cross-sectional and longitudinal (panel) data analysis. Used widely in academia, industry, and government research, LIMDEP distinguishes itself among other packages by providing a wide variety of procedures for limited and qualitative dependent variable analysis.

The graphical user interface facilitates a variety of applications that include summary statistical description, exploratory data analysis, and a plethora of linear and nonlinear regression options. These include a wide variety of models for count data, binary choice, discrete choice, limited dependent variables, sample selection, stochastic frontier models, and survival models based on cross section, panel, and time series data. In addition, there are semi-parametric and nonparametric algorithms, and sampling and bootstrapping capabilities.

The program can also sample parts of data sets and can read ASCII text files or LIMDEP scripts. It can import and/or export several different file formats—including ASCII, binary, DIF, Excel, and Lotus Worksheets. If an analyst employs DBMS/COPY or STAT/TRANSFER, he or she can convert almost any other statistical program to a LIMDEP data set or vice versa.

LIMDEP also includes a scalar calculator, a matrix language, and a programming language that integrates the matrix and scalar calculators with the estimation routines. These general features make this program widely used around the world today. Over the past 20 years, it has grown to handle many of the kinds of problems confronting social science modelers.

Installation & Invocation

Installing and running LIMDEP is very easy. Once the file is copied to a folder and the Windows Setup Wizard is activated, installation takes place in the selected folder. After the user double-clicks on the LIMDEP icon that appears, the window shown in Figure 1 is displayed on the computer screen.

Program Preparation, Submission & Interpretation

When users click on "File:New", a pop-up window offers the option of a Text/Command Document, as shown in Figure 2. After selecting this option, the navigation and command windows shown in Figure 3 appear and users can write their program there. To submit the program for execution, they can select all of it from the edit menu, and then click on the green "Go" button. After the program

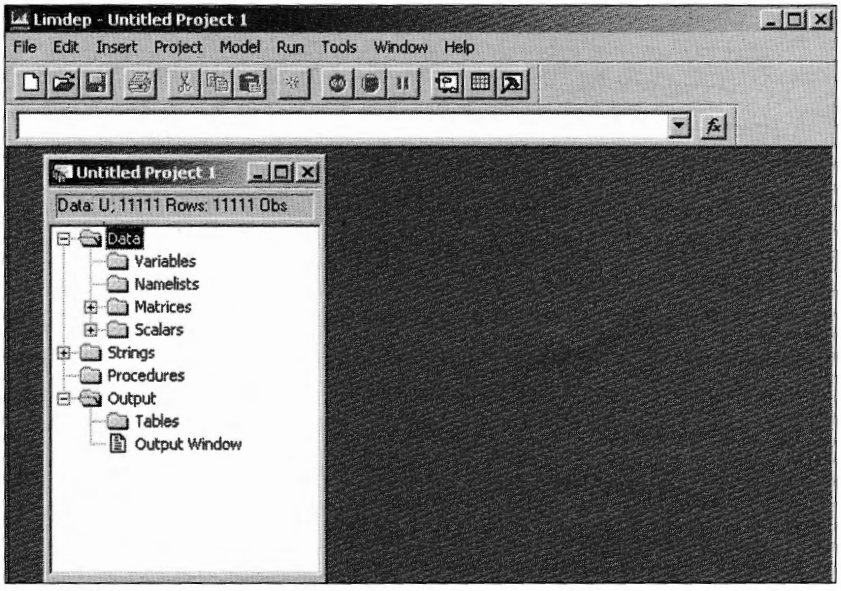


Figure 1. LIMDEP Windows Interface

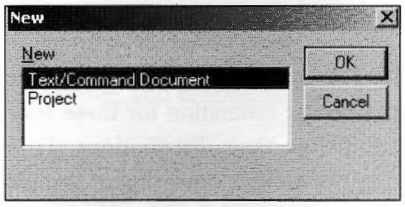


Figure 2. Pop-up Text/Command Window

is processed, users may print out its output and graphs.

The LIMDEP interface includes a trace window which tracks the computations that the program has done and an output window that contains all results. The trace window displays the log of the processing of the submitted program commands and provides warning and error diagnostics to assist programmers in debugging their programs. When the program executes successfully, the output window displays the processed output.

While users are preparing their programs, they may resort to the ample LIMDEP documentation. The program contains help files organized according to contents, commands, and keyword searches. Most of the theory can be found in the current and forthcoming edition of *Econometric Analysis*. Both documentation and Help files are available in the program's help files, in a user's manual, and on the Web. Sample data sets are contained in the Help file and are also available on the LIMDEP website at **http://www.limdep.com**.

Exploratory Data Analysis

The program provides drop down and sidebar menus to give users a clear idea of their options. After submitting a program that reads the data, analysts can explore their data. By clicking on the "Model" option in the header bar, a drop down menu will appear. Here, users can select "Data Description" to explore the variables in the data set and a sidebar-menu appears (see Figure 4). From these, analysts may select summary statistics, histograms, crosstabulations, autocorrelation and partial autocorrelation functions, scatterplots, a matrix of scatterplots among different variables or a kernel density estimator to describe the distribution of the values in the sample.

Single & Multiple Equation Regression Models

LIMDEP contains numerous procedures for the linear regression model. These procedures include a variety of residual diagnostics, hypothesis tests with linear and nonlinear restrictions, tests for linearity, specification, structural change, stability, heteroskedasticity, and autocorrelation.

When the models contain heteroskedasticity, there are a wide variety of options for accommodating it: weighted least squares, models with multiplicative heteroskedasticity or invocation of the White and Newey-West estimators. The models can include group-wise heteroskedasticity, stratification, and panel data with both fixed and random effects or random parameters.

Multiple equation systems may include linear or nonlinear specifications. The estimation algorithms include nonlinear least squares, two-stage least squares, instrumental variables, generalized methods of moments, three-stage least squares, and full-information maximum likelihood.

Count Data Models

LIMDEP 8.0 contains a variety of statistical procedures for count data. Researchers can select Poisson, zero inflated Poisson, or negative binomial or discrete gamma regression. These procedures can be modeled with excess zeros, hurdle effects, corrections for heterogeneity, truncation, censoring, underdispersion, and panel data specifications, with fixed or random effects, random parameters or latent classes. Analysts have their choice of different estimation algorithms and parameter starting values. These models can be weighted to robustify the variance-covariance matrix estimation, to downweight outliers, to estimate population totals, or to maintain post-stratification proportions.

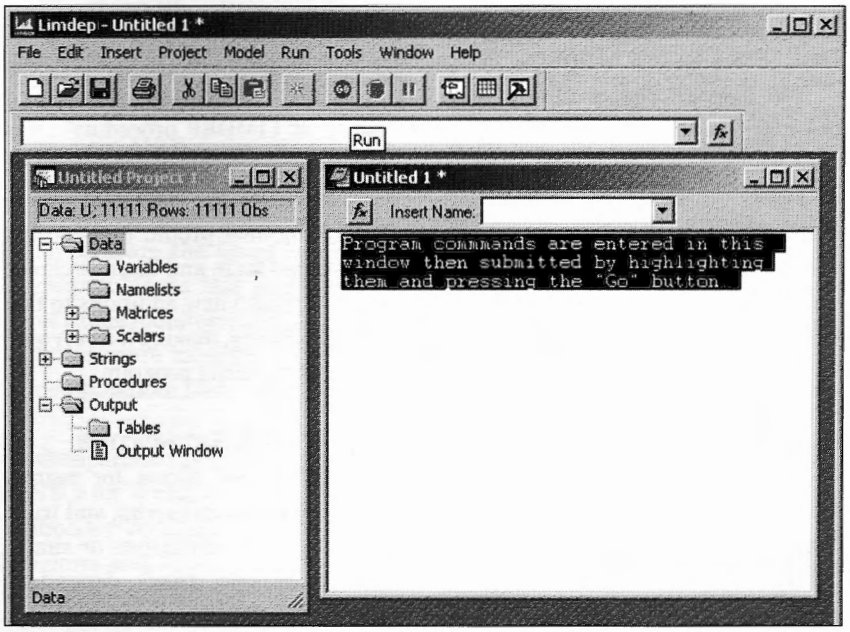


Figure 3. LIMDEP Navigation and Command Windows

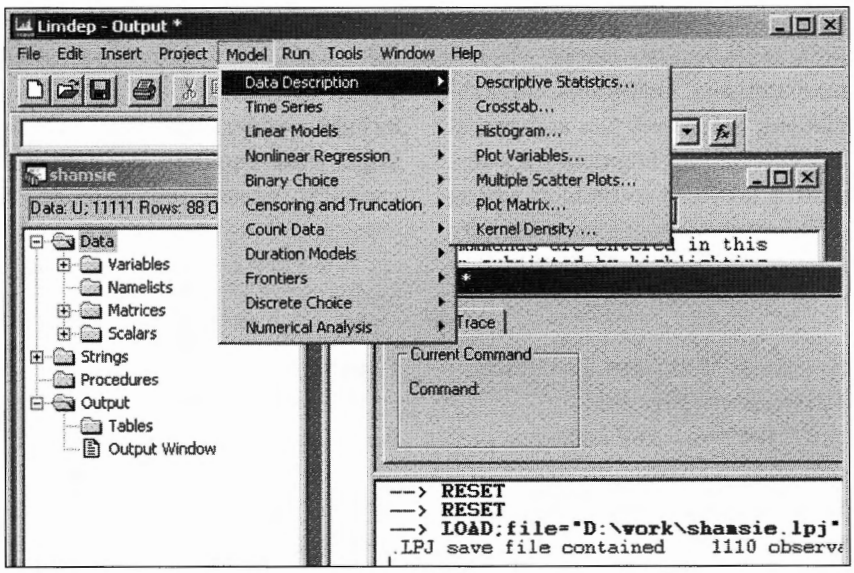


Figure 4. Exploratory Data Options

Binary Choice Models

The binary choice library includes binary probit, logit, kernel density models (with a selection of any of eight kernal smoothing functions), multivariate probit, latent class, as well as bootstrapped maximum score estimators models. Moreover, binary or bivariate probit models can be fitted by exteme value (complimentary log-log) or Gompertz distributions. These models can accommodate fixed or random effects, panel data, and heterogeneity.

Discrete Choice Models

The discrete choice library also provides a rich variety of procedures from which to choose, as can be seen in Figure 5, including nested and multinomial logit. A superset of LIMDEP (NLOGIT) is provided separately. NLOGIT contains estimators for a wide variety of nested logit, multinomial probit, latent class, and random parameters mixed logit models for discrete choice analysis.

Ordered Dependent Variables

Within the discrete choice library, there are ordered dependent variable procedures. The ordered options permit ordered probit, logit, extreme value, or Gompertz models. These models can be run with panel data, stratification, variable dependent heteroskedasticity, and random effects, as sample selection or hazard models. Users have the choice of five different algorithms, parameter starting values, and other technical settings such as the number of hermite quadrature points used for the random effects model.

LIMDEP also allows the usual parameter constraints and hypothesis tests. It permits the use of clustering for robust covariance estimation. Like most LIMDEP procedures, this one allows the saving of predicted and residual values for diagnostic analysis. Multinomial probit, multivariate logit, nested logit, and discrete choice models are also new additions to this LIMDEP library, making it a very versatile and powerful program.

Censoring & Truncation

LIMDEP also allows for regression models with censoring and truncation. Whether univariate or simultaneous models, these dependent variable models have floors, ceilings, or both lower and upper limits restricting the range of the dependent variable. These tobit or truncation models require adjustment of the parametric estimation for these constraints on their distributions. They may be run with censoring or sample selection options. They may be bivariate or sequential. They may be nested. They may be run with panel data and heteroskedasticity corrections when they are variable dependent. They may be run with panel data including fixed or random effects or random parameters. They may be run with the usual assortment of constraints or hypothesis tests. When the data are completely censored, a grouped data regression may be run.

Time Series

LIMDEP also performs basic Box-Jenkins ARIMA analysis. It can handle ARMAX distributed lag and GARCH models as well. The distributed lag family of models can either be of geometric or polynomial structure. The roots of the dynamic equations can easily be tested for stability. Descriptive statistics such as ACF, PACF, and variance spectral density estimators are provided. LIMDEP can also handle time series cross sectional regression models with group-wise heteroskedasticity, along with fixed and random effects.

Survival Models

This package also contains parametric, semi-parametric, and nonparametric event history models for analyzing duration data. The nonparametric techniques include the Life Tables with the log rank and generalized Wilcoxon tests for homogeneity. The semi-parametric models include the Cox proportional hazards models and the Han and Hausman ordered logit model. Parametric techniques include log-linear models, Weibull, lognormal, log-logistic, inverse Gaussian, Gompertz, and

Generalized F models. These models can handle truncation, time-varying covariates, and heterogeneity.

Robust Techniques

LIMDEP has a variety of robust procedures. When heterogeneity or outliers plague a problem, users may deal with these by using some form of weighted least squares, generalized least squares, feasible generalized least squares, or generalized methods of moments. Analysts may use White or Newey-West sandwich estimators to generate robust standard errors or they may use one of the various nonparametric techniques provided by LIMDEP. They can construct their weights so as to downweight outliers. If they knows the distribution, users may bootstrap to obtain empirical standard errors. The algorithms used are efficient and if they fail, others are automatically invoked to complete the iteration to a solution.

Large Data Sets

The data set size is limited by the available memory and disk space. The default setting is 200,000 cells (the number of variables multiplied by the number of cases), but this may be reset to several million if necessary. The internal limit is 3 million observations. Overall, processing time, rather than storage space, is likely to be the limiting constraint on data set size.

Programming Language

The preceding lists of models are not complete—several classes of models have been omitted for lack of space here. Nonetheless, if the menu of preprogrammed estimators proves inadequate, users may write their own estimation programs using LIMDEP's "Maximize" command to specify their own likelihood function or other estimation criterion. User-written programs may include subroutines with adjustable parameters, loops, matrix and data manipulation commands, and so on.

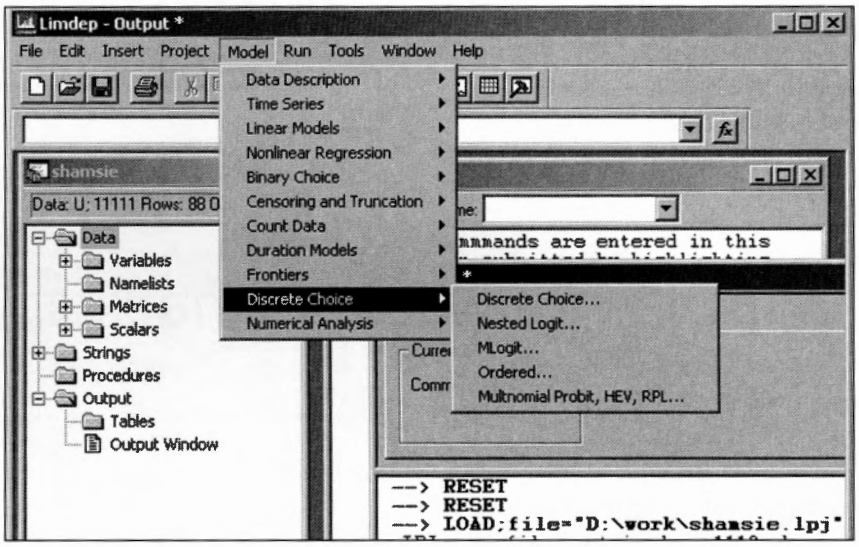


Figure 5. Discrete Choice Library

Statistical Accuracy

Users of popular statistical packages must be concerned with accuracy. LIMDEP performs well with data sets used by The National Institute of Standards and Technology. These Reference Statistical Data Sets are used to evaluate computational accuracy in univariate procedures, one-way ANOVAs, and linear and nonlinear regression models:

- to test univariate computation: Michelson Morley data on the speed of light;
- to test ANOVA procedures: the NIST data on the atomic weight of silver;
- to compare the linear regression output: Norris data on calibration of ozone monitors; and
- to compare nonlinear regression computation: Dan Wood's data.

Comparisons of LIMDEP 8.0 with SAS 8.2 for Windows, STATA Special Edition for Windows, S-PLUS 6.0 for Windows, and SPSS 11.0 for Windows were performed on Dell Precision 530 workstations with 1.7 gigahertz Pentium 4 central processors. In these tests, LIMDEP 8.0, compared with the other packages, obtained a large number of accurate digits in its parameter estimates.

On the basis of these tests, we find that LIMDEP is as accurate as, or more accurate than, the other packages tested. In 1999, Bruce McCulloch, using NIST benchmarks, evaluated popular econometric software in the *Journal of Applied Econometrics*, vol. 14, pp. 191-202, and discovered that LIMDEP and TSP outperformed SHAZAM and EVIEWS on nonlinear estimation.

LIMDEP is a product of Econometric Software, Inc., 15 Gloria Place, Plainview, NY, 11803. NYU's ITS Academic Computing Services is in the process of acquiring Version 8.0 of LIMDEP for use at the ITS Social Science Lab. NYU faculty or students interested in using it should contact Robert Yaffee at 1 (212) 998-3402. Interested persons may learn more about LIMDEP at **http://www.limdep.com**.

William Greene, Ph.D. is a professor of Economics at the NYU Stern School of Business and author of LIMDEP; Robert Yaffee, Ph.D. is a statistician at ITS' Academic Computing Services.

Inputting Questionnaires into Data Sets

Frank LoPresti and Sean Fischer
frank.lopresti@nyu.edu; snf210@nyu.edu

Entering questionnaire data accurately for later analysis can be accomplished using several diverse software applications. Which method to use is best determined by the environment in which your testing is conducted and by your time and money constraints.

Two very useful techniques discussed in this article offer an automated approach to compiling survey data. The first one involves traditional scannable bubble forms, while the second technique involves using web-based survey forms to administer your questionnaire. Both of these techniques can be successfully employed using the appropriate software.

Of course, you can always enter your data by hand. If you only have a few questionnaires and are careful, using this simple method is a "no-brainer". SPSS and other statistical packages have spreadsheets into which you can type the data. Most statistical packages also accept data from Excel.

However, if you have a fifty-item questionnaire and you enter the data twice to verify it, you will spend perhaps five minutes on each questionnaire (which comes to 10 hours for 120 questionnaires). The first automated method mentioned above, using scannable bubble forms, would take less than two hours—including questionnaire formatting—and would have far fewer errors.

I. Bubble Answer Fields on Scannable Forms

Using paper questionnaires with bubble fields for answers is an old technology. You could use a commercial data input service, but it would be expensive, especially if you only have 150 questionnaires. However, Remark Office OMR (Optical Mark Recognition), available from Principia Products (**http://www.principiaproducts.com/**), works extremely well and is a fairly economical option. The software has been used at NYU for almost a decade. It has always proved to be robust and accurate.

Remark provides an accurate description of the software on their web page: "The Remark Office OMR software works with an image scanner to scan and process your survey or test forms. Remark Office OMR can read OMR areas, as well as barcode information from your forms. Handwritten and typewritten areas cannot be read by the software but can be captured as image fields for later key entry by an operator. Built-in exception handling easily locates and allows you to correct or verify any erroneously marked forms (i.e., a person fills in two marks for a question, or fails to answer a question)."

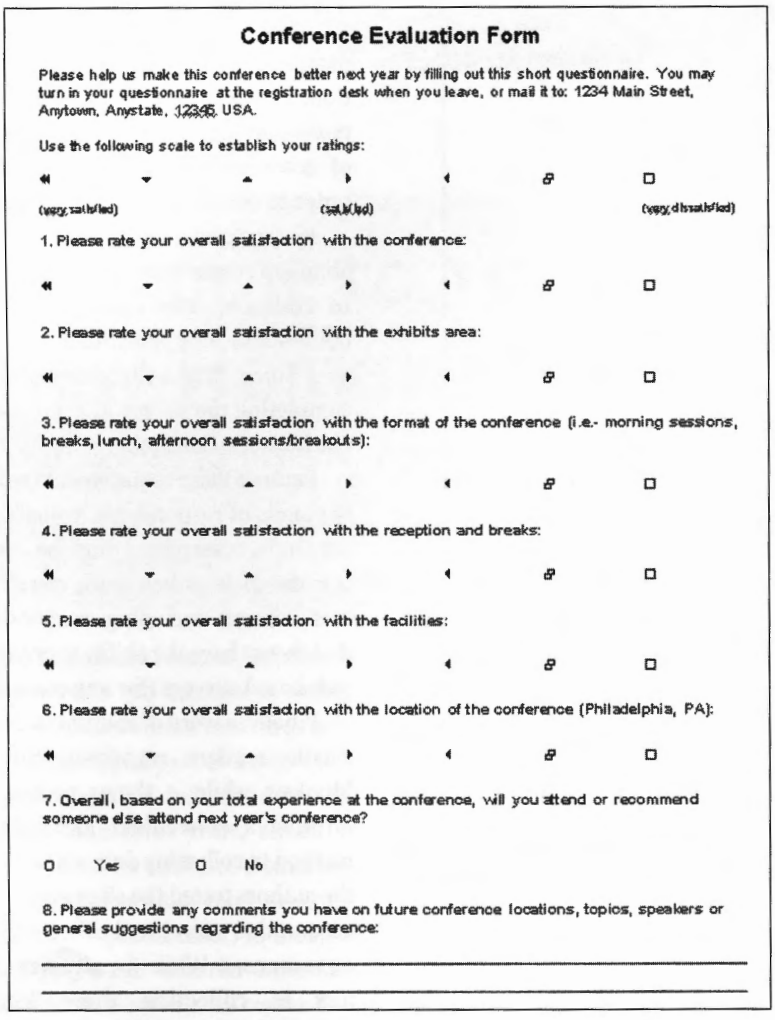
A detailed discussion of their product and of the advantages of using bubble-answered questionnaires over by-hand data entry may be found in this author's review of the Remark software in the Fall 1996 edition of *Connect*: **http://www.nyu.edu/its/connect/archives/96fall/loprestistats.html**.

When to Use Bubble Answers on Scannable Forms

Almost any paper questionnaire can be formatted as a bubble field form (see Figure 1). You can hand them out and collect them or mail them to a list with return-addressed envelopes. However, respondents must be mature enough and sober enough to fill in the bubbles. In addition, respondents must be motivated enough to be careful, neat, and responsible in getting the questionnaires back to you. They must also be able to understand the questions without your help.

The cost for the Remark software is $700. The scanner must have an automatic feeder, which costs perhaps $1000. This may seem expensive, but if you look into the cost of commercial services or of paying someone to do the data entry, it will seem more reasonable by comparison. Plus, you will own the scanner and software for future use.

Alternately, the ITS Social Science, Statistics and Mapping Group has scanners and a license for Remark



Conference Evaluation Form

Please help us make this conference better next year by filling out this short questionnaire. You may turn in your questionnaire at the registration desk when you leave, or mail it to: 1234 Main Street, Anytown, Anystate, 12345 USA.

Use the following scale to establish your ratings:

(very satisfied) (satisfied) (very dissatisfied)

1. Please rate your overall satisfaction with the conference:

2. Please rate your overall satisfaction with the exhibits area:

3. Please rate your overall satisfaction with the format of the conference (i.e.- morning sessions, breaks, lunch, afternoon sessions/breakouts):

4. Please rate your overall satisfaction with the reception and breaks:

5. Please rate your overall satisfaction with the facilities:

6. Please rate your overall satisfaction with the location of the conference (Philadelphia, PA):

7. Overall, based on your total experience at the conference, will you attend or recommend someone else attend next year's conference?

O Yes O No

8. Please provide any comments you have on future conference locations, topics, speakers or general suggestions regarding the conference:

Figure 1. An example of a bubble questionnaire.

that are available for use by qualified NYU community members. Contact Frank LoPresti at *frank.lopresti@nyu.edu* for more information.

II. Web Pages—Using a Web Server to Administer Your Questionnaire

The Internet is becoming an increasingly useful medium for collecting data. Perhaps its most attractive feature is its ability to reach an incredibly large number of people without having to actually be in proximity to them. Another important feature of collecting data using a web server is its ability to cut costs by eliminating copy fees and interviewer personnel.

Researchers interested in collecting data via the Web have a couple of software options. The first is to create a web page on your own web server and use a software package to assist in the collection. One such product that attempts to accomplish this goal is SPSS Data Entry.

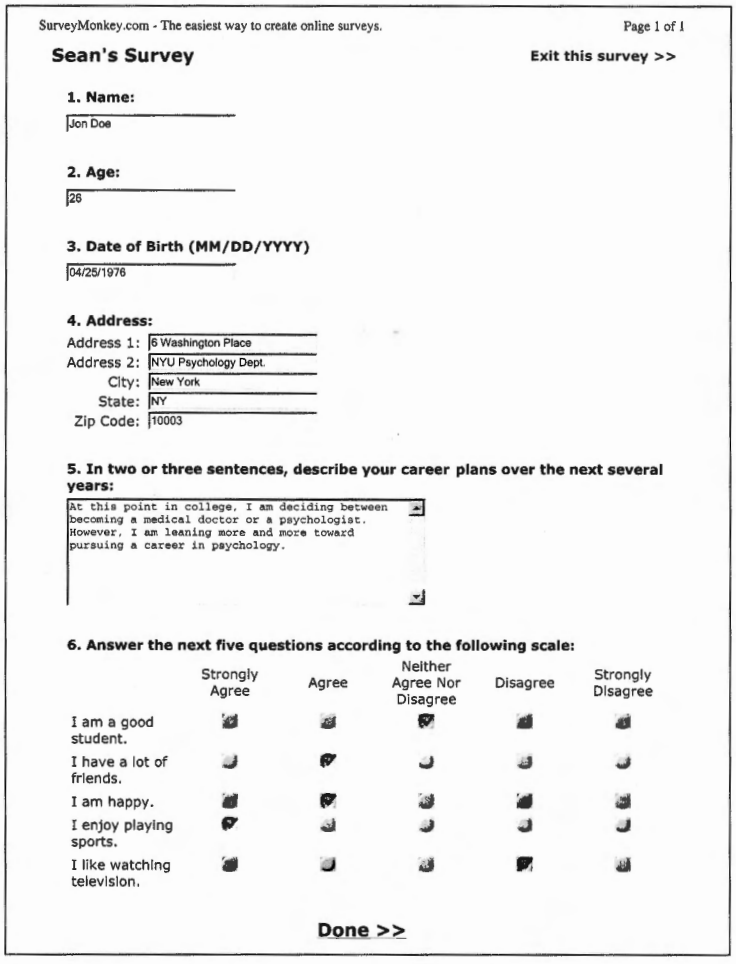
SPSS Data Entry and Data Entry Builder software make your computer into a server. You can use the Builder to create a web survey, then publish it using the Data Entry software, which supplies the Perl and Java you need to gather the respondents answers. The results look great. The software also helps you to create a web page that sits on your newly created server with a link to your survey. Once you click on the URL, your survey is up and running on other computers.

So what's not to like? Unfortunately, plenty. When this product first came out a couple of years ago, its success seemed guaranteed. Nonetheless, Application Service Providers (ASPs) turned out to be the way to go. ASPs provide and maintain the servers for applications, and they charge you for using their software. Experience—some of it hard-earned—showed that most researchers and small groups are ill-equipped to provide and maintain a stable server and at the same time manage the software. Security alone is a monumental investment.

Despite the problems associated with the SPSS Data Entry product, researchers still have options available to them that will allow data collection via the Web. One website that shows great promise in assisting researchers in this endeavor is SurveyMonkey (**http://www.surveymonkey.com**).

This website is geared toward researchers who would like to use the Internet to collect survey data, but who do not know how to (or do not care to) collect the data using their own web server. After registering with the website, researchers can create any number of web-based questionnaires, and each one is assigned its own individual web address.

Creating survey forms using SurveyMonkey is surprisingly easy. One does not need to be incredibly computer savvy or proficient in web page design. SurveyMonkey guides the researcher through a step-by-step process that offers several options for each question. For example, researchers can easily create survey forms that allow for multiple choice questions, one-line open-ended questions, or questions that require respondents to input their responses in an essay format (see Figure 2). When the researcher is done, SurveyMonkey



SurveyMonkey.com - The easiest way to create online surveys. Page 1 of 1

Sean's Survey Exit this survey >>

1. Name:
Jon Doe

2. Age:
26

3. Date of Birth (MM/DD/YYYY)
04/25/1976

4. Address:
Address 1: 6 Washington Place
Address 2: NYU Psychology Dept.
City: New York
State: NY
Zip Code: 10003

5. In two or three sentences, describe your career plans over the next several years:
At this point in college, I am deciding between becoming a medical doctor or a psychologist. However, I am leaning more and more toward pursuing a career in psychology.

6. Answer the next five questions according to the following scale:

	Strongly Agree	Agree	Neither Agree Nor Disagree	Disagree	Strongly Disagree
I am a good student.			●		
I have a lot of friends.		●			
I am happy.		●			
I enjoy playing sports.	●				
I like watching television.				●	

Done >>

Figure 2. A sample SurveyMonkey questionnaire.

creates a survey that is not only easy to use, but also has a very professional look to it.

Researchers have the option of registering for the basic subscription (which is free) or for the professional subscription (which costs $19.95 per month). The basic subscription allows the user to create up to 10 questions per survey and gather 100 responses per survey, which makes it ideal for researchers and students who need to obtain only a minimal amount of data. For those researchers who wish to conduct studies on a larger scale, a professional subscription allows the user to create an unlimited number of surveys and an unlimited number of questions per survey. In addition, users can collect up to 1,000 responses per month.

In addition, SurveyMonkey allows the researcher more flexibility over the survey than traditional paper and pencil questionnaires. For example, the user can eliminate order bias inherent in multiple choice questions by choosing to randomize the answer choices with each new participant. In addition, each respondent's answers are recorded in a data file that is available to the researcher via the website. Finally, the professional subscription allows data to be downloaded into an Excel format, which can be used with most statistical software packages.

When to Use SurveyMonkey or Other Web-Based Survey Administration Sites

Before researchers use SurveyMonkey or other web-based survey administration sites to collect their data, a few issues deserve consideration. For example, respondents must possess at least a basic understanding of computers and the Internet in order to complete the questionnaire.

Respondents must also have the ability to access the World Wide Web. In addition, they must be able to understand the questions on their own since they will presumably be completing the survey at a site different from the researcher.

Because these requirements restrict the kinds of respondents available for the study, researchers must be certain that the goals of their study can still be met without including respondents that do not have the ability to complete web-based surveys (for any reason).

Finally, a word of caution to enthusiastic readers regarding SurveyMonkey: while it shows promise in offering a convenient and reliable method in collecting data via the Web, the authors tested the site using only a 10-question survey and collecting only 10 responses. While the site was flawless in collecting these limited amounts of data, we can offer no guarantee as to its effectiveness in collecting larger amounts of data using longer surveys. Interested researchers should take the time to explore the effectiveness of this site and determine for themselves whether or not it is capable of meeting the needs of their specific research projects.

For additional information on collecting data over the Web, see this author's previous article on the subject in the Fall 2000 *Connect*: **http://www.nyu.edu/its/connect/archives/00fall/loprestide.html.** ⓘ

Frank LoPresti heads the Social Science, Statistics & Mapping Group of Academic Computing Services at ITS. Sean Fischer is an NYU student working with the ITS Social Science, Statistics & Mapping Group.

Welcome to Your New Home!

Your Guide to NYUHome Version 3.0

Michael Puskar
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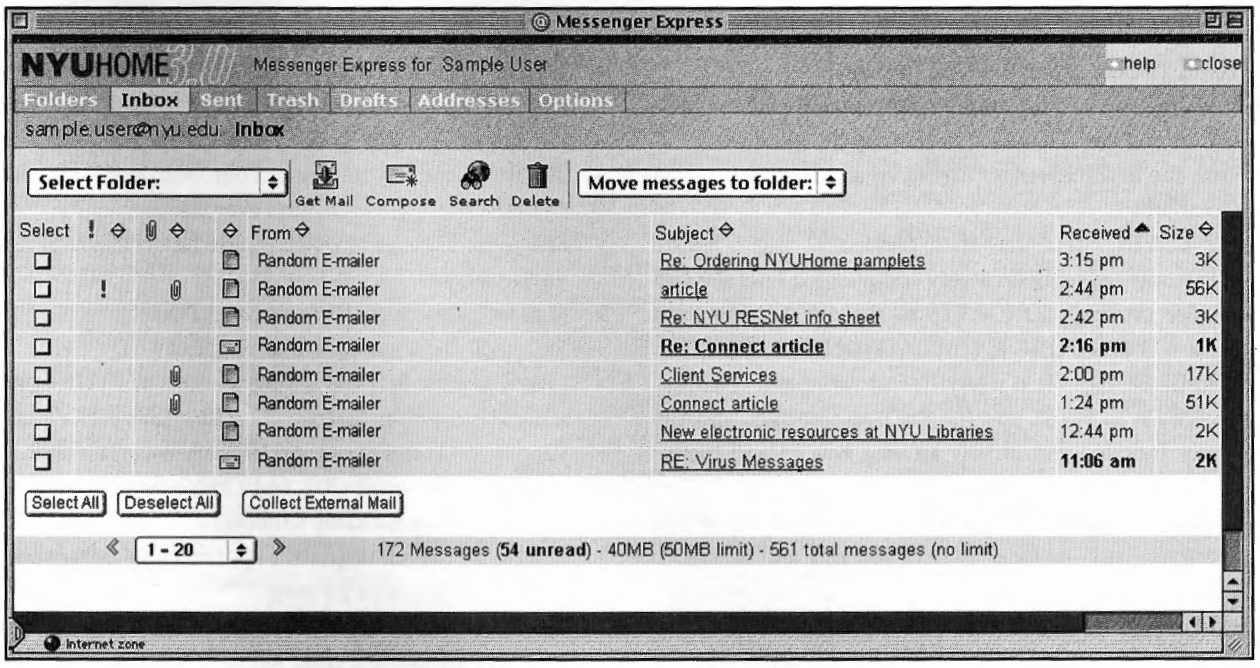
The recently released NYUHome version 3.0 includes a variety of innovations and improvements. An integral part of the new version is an upgraded mail server. In a little more than three years, e-mail at NYU has been transformed from a terminal-based text-only mail program (NYUHome's predecessor) to the new NYUHome, a full-featured university portal and web-based mail server.

Over the years, the transition from the old-fashioned terminal-based application ("pine", for those oldsters among you) to the more user-accessible, web-based NYUHome has brought many new features, as well as a significant paradigm shift. Previously, clients accessed mail, limited to text only, through a terminal emulator. E-mail users required special programs and instruction. Common procedures such as printing and saving were extremely difficult and prone to error.

All of this changed with the inception of NYUHome in 2000, which moved mail (and many other useful features) into a web browser, ensuring simplicity and ease of use for all users. Gone were the complicated maneuvers—after all, almost everyone is familiar with a browser. And most important of all, NYUHome delivered information to its users, rather than forcing them all, as with earlier systems, to retrieve it from the same remote mail server.

Now, the NYUHome 3.0 upgrade has brought further improvements, addressing many of its users' requests and introducing several key new features to the mail program. The response has been overwhelming (see some of the comments we've received, included at the bottom of the next page).



The New NYUHome 3.0 Mail Window

And why not? We've added a spell checker, which can be used on demand or set to run automatically. Another big addition is the enhanced address book functionality. You are now able to take addresses from e-mail that you have received and add them to your address book with just a couple of clicks. And perhaps best of all, folders can now be shared among users. Just designate a folder "shared" and other NYUHome users will have the ability to read, write, or manage that folder. This ought to be especially useful to departments that receive mail intended for a group.

In addition to these major features, there have been numerous bug fixes which now allow NYUHome to be used on as wide a range of browsers as possible. One of the longstanding bugs was the sort-order of messages, which has now been fixed. When you set the mailer to put the oldest message last, it will sort the messages as you would expect; the newest message first on the first page and the oldest message last on the last page. Also, once you set it, it will stay set.

But we're by no means finished. Next on NYUHome's order of business is a mail filter—possibly the biggest, most requested feature to date. We've built the mail program to support the addition of filters (which can automatically sort messages into folders as they are received, based on user-specified criteria), and we aim to have them in place by the end of the Fall 2002 semester.

Farther out on our crowded horizon is spam filtering, a much pricklier subject. Legitimate and important messages can sometimes be incorrectly designated as spam by these filters. For obvious reasons, we are loath to actually delete any mail, so we're considering solutions that add headers to identify what we believe to be spam; it would then be up to each user to employ a filter to sift, delete, or simply divert files to another folder for later perusal.

Other enhancements included in the current 3.0 upgrade are increased mail and file quotas (each raised from 30 MB to 50 MB); streamlined Blackboard course creation; and new channels (including a new Google search engine, an administrative computing channel, and a Medical School channel).

We hope that you enjoy the new features of NYUHome 3.0. As you explore your new Home, please contact us with any questions or comments you may have. You can reach the NYUHome Team through the "Contact Home" channel in NYUHome, or by sending e-mail to *home@nyu.edu.*

Michael Puskar is an Information Technology Specialist in ITS eServices.

What People are Saying about NYUHome Version 3.0

Unsolicited comments from the NYU community about the newest version of NYHome.

- As a new NYU student, I find this NYUHome portal great. Thanks...great work on the site.
- Version 3.0 has a lot more improvements—easier navigation and use. Thanks...pls keep up the good work.
- Hey, the new messenger express really blows me away! Great job!
- I'm LOVIN' these new mail features!! But I realize that's only the icing on a very complicated upgrade and release process. CONGRATS to the entire team on a release WELL DONE & WELL COMMUNICATED!!!
- I think the upgrade is a terrific improvement. Thanks!
- Just want to thank you for the new interface and the better functionality, finally an easy way to add recipients and a speller! Great job.
- Logged into NYUHome and was surprised by all the changes. I usually hate changes like this and having to learn how to use an upgraded system (i.e., the latest version of AOL), but this I didn't mind so much.
- The new features, especially the address book, are great! Thanks for the upgrade.
- Thanks—I got to work all weekend!
- THANK YOU for fixing the glitches that NYUHome 3.0 had with either Netscape or Macs!
- You guys could solve a rainy day!
- Thanks! That did the trick. Your response was quick and effective...don't you guys ever sleep?
- Marking messages to which replies have been sent is an improvement.
- Mail looks much cooler now. Nice! Peace.
- This spell check on the e-mail is great!
- I really like the new and flexible features of NYUHome. It was a surprise to see the color and added features for e-mail.
- Version 3.0 is really cool and millenium-ish. I like it! :-)
- I like the new e-mail GUI, and I like access to the inbox and trash from the same window.
- Thanks for the 3.0 upgrade. I appreciate its faster speed.
- Thanks for the extra 20 meg.
- You're brilliant! Thanks a bunch.
- You guys are doing a great job with NYUHome! It just keeps on getting better and better.

The ITS Client Services Center & ITS Computer Labs

Expanded Hours, Expanded Service

Ken Fauerbach
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In late spring/early summer 2001, it was decided that the ITS Client Services Center (the folks at 998-3333) and the ITS computer labs—two key areas of direct computer support to the University community—would expand their hours of operation in order to meet the increasing late evening and weekend needs of NYU students, faculty, staff, and administrators.

In the past, one ITS computer lab (Tisch Hall) had routinely extended its hours following mid-term exams for this purpose, and several had been open on both Saturdays and Sundays. Beginning September 2001, however, all of the labs permanently increased their in-semester hours of operation, with one location, Third Avenue North, adopting a 24 x 7 schedule (see **http://www.nyu.edu/its/labs/** for details).

Similarly, while hours at the ITS Client Services Center (CSC) had been increased the previous year to 8:00 am–8:00 pm on weekdays, it was becoming increasingly evident that our clients' work and study patterns, and their ever-growing reliance on technology, required more. Analyses of data traffic on ResNet and the NYU incoming modem pool, for example, as well as telephone traffic from the residence halls, clearly indicated the need to extend CSC hours. We had heard that, by and large, we provided good service at 998-3333—but that it was hard to reach us.

After some consideration, it was decided that staying open from 8:00 am to midnight on weekdays and from noon to midnight on weekends would provide a significant expansion of our hours, one that would make our services available to the broadest range of NYU community members. In addition, it would provide us with an opportunity to examine the resultant call patterns and service levels, and to determine the effectiveness of our service expansion.

Based on what we've seen this past year at the CSC, our extended hours have effected real improvements. For example, one commonly used benchmark of helpdesk performance is the percent of calls that are answered directly by helpdesk staff. Over the past several years, the CSC has consistently received some 70,000 calls annually. This past year, our average for directly-answered calls was well over 85%, and ranged above 92% during a large portion of the year—as compared with prior years, when we averaged about 60%.

Another commonly used indicator is the length of time a caller needs to wait before being answered. We are now answering calls in less than 45 seconds, averaged over the whole year, and in less than 20 seconds during non-peak months. Additionally, we answered more calls in August 2002 (6,688) than any other month, with over 3,000 of them answered in the last week of August alone.

SO, DID EXPANDING OUR HOURS HELP YOU?

Well, the data indicate that it did. The CSC is now open 104 hours a week (out of 168), and over 20% of our calls this past year were answered during the service hours that we added a year ago: 13% on weekends and approximately 8-10% between 8:00 pm and midnight.

Other hallmarks of ITS' overall program of expanded coverage include improvements both in our systems' robustness and, when problems do occur, in our response, whether day or night.

All of us at ITS are proud of our accomplishments this past year, and we look forward to serving you even more effectively in the future. Have a productive year and if we can be of help, feel welcome to call us! We're here for you at 1 (212) 998-3333. ⓘ

Ken Fauerbach is the Director of ITS Client Services.

ITS HAS RELEASED THE NEW

NYU-NET CD

CONTENTS

Norton AntiVirus Software
Adobe Acrobat Reader
Internet Explorer
Netscape
Eudora
RealOne Player
RealPlayer for Macintosh
StuffIt Expander
WinZip
Fetch 4.0.2
WS-FTP
Putty SSH
MacSSH
DIAL Configuration Instructions
FAQs, Proxy Information, and Helpful URLs

The CD works with both Windows and Macintosh, and it's free!

Pick up your copy at any ITS computer lab or at the ITS Client Services Center. ITS labs include the ITS Tisch Hall Lab (40 W. 4th Street, Room LC-8), the ITS Multimedia Lab (35 W. 4th Street, 2nd Floor), the ITS Third Ave. North Lab (75 3rd Avenue, Level C3), and the ITS Washington Place Lab (14 Washington Place, Lower Level). The ITS Client Services Center is located at 10 Astor Place, 4th Floor.

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